



## SEQUENCE LISTING

<110> Einat, et al

<120> GENES ASSOCIATED WITH MECHANICAL STRESS, EXPRESSION PRODUCTS THEREFROM, AND USES THEREOF

<130> 540579-2007.3

<140> 09/991,630

<141> 2001-11-06

<150> 09/905,129

<151> 2001-07-13

<150> 09/802,318

<151> 2001-03-08

<150> 09/729,485

<151> 2000-12-04

<160> 28

<170> PatentIn version 3.0

<210> 1

<211> 8883

<212> DNA

<213> Rattus species

<220>

<221> misc\_feature

<222> (1)..(8883)

<223> 'n' can be any nucleotide 'a', 'c', 'g' or 't'.

<400> 1

```
cgagagacga cagaagggtta cggctgagag aagacgacag aagggtccag aaaaaggaaa      60
gtgctggagg ggagtgggga caaaagcagc gaccaagtga atgtcacttc agtgactgag      120
gccaggcaaa acgcgcggga aggatthttgt gtagcttggg accctttcat agacactgat      180
gacacgttta cgcaaaatag aaatttgagg agaaacgcct gggccttcgg aaaggagtga      240
ttgattagta cttgcaagtt taggtgactt taaggagaac taactaatgt atactattga      300
gggaggagga agagcattac agagtttcca gcagcagcag gaaagctttg gtttaatttg      360
aaatggatga tagcattaa ataacagaag cgctccagg tctctgaagc ttcagtcccc      420
cagctgaaag ccagaaaaga ctaagcccac taagcctttt gatccctttg gaagcaaaga      480
actttccttc cctggggtga agactctcct cagaagattt cctgtctctg cctatgttac      540
aagaggaatc aaaaccaaga cagaagagct caggatgcag gtgagaggca gggaagtcag      600
```

cggtctgttg atctccctca ctgctgtctg cctggtgggc acccctggga gcagggcctg	660
tcctcgccgc tgtgcctgct atgtgccac agaggcgcac tgtacatttc ggtacctgac	720
ctccatccca gatggcatcc cggccaatgt ggaacgaata aatttaggat ataacagcct	780
tactagattg acagaaaacg actttgatgg cctgagcaaa ctggagttac tcatgctgca	840
cagtaatggc attcacagag tcagtgcaca gaccttctcg ggcttgagcgt ccttgaggt	900
cttaaaaatg agctataaca aagtccaaat cattcggaag gatactttct acggactcgg	960
gagcttgggc cgggtgcacc tggatcaca caacattgaa ttcacaaacc ctgaggcctt	1020
ttatggactt acctcgctcc gcttgggtaca tttagaagga aaccggctca caaagctcca	1080
tccagacaca tttgtctcat taagctatct ccagatatct aaaacctctt tcattaagta	1140
cctgttcttg tctgataact tcctgacctc cctcccaaaa gaaatgggtc cctacatgcc	1200
aaacctagaa agcctgtatt tgcattgaaa cccatggacc tgtgactgcc atttaaagt	1260
gttgtctgag tggatgcagg gaaaccaga tataataaaa tgcaagaaag acagaagctc	1320
ttccagtcct cagcaatgtc ccctttgcat gaaccccagg atctctaaag gcagaccctt	1380
tgctatggta ccatctggag ctttccctatg tacaagcca accattgatc catcactgaa	1440
gtcaaagagc ctggttactc aggaggacaa tggatctgcc tccacctcac ctcaagattt	1500
catagaacct tttggctcct tgtctttgaa catgacanan ntntctggaa ataaggccga	1560
catggctctg agtatccaaa agccatcaag gacatcacca actgcattca ctgaagaaaa	1620
tgactacatc atgctaaatg cgtcattttc cacaatctt gtgtgcagtg tagattataa	1680
tcacatccag ccagtgtggc aacttctggc tttatacagt gactctctc tgatactaga	1740
aaggaaagccc cagcttaccg agactcctc actgtcttct agatataaac aggtggctct	1800
taggcctgaa gacattttta ccagcataga ggctgatgtc agagcagacc ctttttggtt	1860
ccaacaagaa aaaattgtct tgcagctgaa cagaactgcc accacactta gcacattaca	1920
gatccagttt tccactgatg ctcaaatcgc tttaccaagg gcggagatga gagcggagag	1980
actcaaagtg accatgatcc tgatgatgaa caatcccaaa ctggaacgca ctgtcctggt	2040
tggcggcact attgcctga gctgtccagg caaaggcgac cttcacctc acttggaaatg	2100
gcttctagct gatgggagta aagtgagagc cccttacgtt agcgaggatg ggcaaatcct	2160
aatagacaaa aatgggaagt tggaactgca gatggctgac agctttgatg caggtcttta	2220
ccactgcata agcaccaatg atgcagatgc ggatgttctc acatacagga taactgtggt	2280
agagccctat ggagaaagca cacatgacag tggagtccag cacacagtgg ttacgggtga	2340

gacgctcgac cttccatgcc tttccacggg tgttccagat gcttctatta gctggattct	2400
tccagggaaac actgtgttct ctccagccatc aagagacagg caaattctta acaatgggac	2460
cttaagaata ttacaggtta cgccaaaaga tcaagggtcat taccaatgtg tggctgccaa	2520
cccatcaggg gccgactttt ccagttttta agtttcagtt caaaagaaag gccaaaggat	2580
ggttgagcat gacagggagg caggtggatc tggacttga gaacccaact ccagtgttct	2640
ccttaagcag ccagcatctt tgaaactctc tgcacagct ttgacagggc cagaggctgg	2700
aaaacaagtc tccggtgtac ataggaagaa caaacataga gacttaatac atcggcggcg	2760
tggggattcc acgctccggc gattcagggg gcataggagg cagctccctc tctctgctcg	2820
gagaattgac ccgcaacgct gggcagcact tctagaaaaa gccaaaaaga attctgtgcc	2880
aaaaaagcaa gaaaatacca cagtaaagcc agtgccactg gctgttcccc tcgtggaact	2940
cactgacgag gaaaaggatg cctctggcat gattcctcca gatgaagaat tcatggttct	3000
gaaaactaag gcttctggtg tcccaggaag gtcaccaact gctgactctg gaccagtaaa	3060
tcatggtttt atgacgagta tagcttctgg cacagaagtc tcaactgtga atccacaaac	3120
actacaatct gagcaccttc ctgatttcaa attatttagt gtaacaaacg gtacagctgt	3180
gacaaagagt atgaacccat ccatagcaag caaaatagaa gatacaacca accaaaaccc	3240
aatcattatc tttccatcag tagctgaaat tcgagattct gctcaggcag gaagagcatc	3300
ttcccaaagt gcacaccctg taacaggggg aaacatggct acctatggc ataccaacac	3360
atatagtagc tttaccagca aagccagtac agtcttgag ccaataaatc caacagaaag	3420
ttatggacct cagataccta ttacaggagt cagcagacct agcagtagtg acatctcttc	3480
tcacactact gcagacccta gcttctccag tcacccttca ggttcacaca ccactgcctc	3540
gtctttatct cacattccta gaaacaacaa tacaggtaac ttccccttgt ccaggcactt	3600
gggaagagag aggacaattt ggagcagagg gagagttaaa aaccacata gaacccagc	3660
tctccgacgg catagacaca ggactgtgag gccagcaatc aaggacctg ctaacaaaaa	3720
tgtgagccaa gttccagcca cagagtacct tgggatgtgc cacacatgtc cttccgcaga	3780
ggggctcaca gtggctactg cagcactgtc agttccaagt tcatcccaca gtgccctccc	3840
caaaactaat aatgttgggg tcatagcaga agagtctacc actgtggtca agaaaccact	3900
gttactatct aaggacaaac aaaatgtaga tattgagata ataacaacca ctacaaaata	3960
ttccggaggg gaaagtaacc acgtgattcc tacggaagca agcatgactt ctgctccaac	4020

atctgtatcc ctggggaaat ctctgtaga caatagtggc cacctgagca tgccctgggac	4080
catccaaact gggaaagatt cagtggaaac aacaccactt cccagccccc tcagcacacc	4140
ctcaatacca acaagcacia aattctcaaa gaggaaaact cccttgccacc agatctttgt	4200
aaataaccag aagaaggagg ggatgttaaa gaatccatat caattcgggt taaaaagaa	4260
cccagccgca aagcttccca aaatagctcc tcttttacc acaggtcaga gttccccctc	4320
agattctaca actctcttga caagtccgcc accagctctg tctacaacia tggctgccac	4380
tcagaacaag ggcaactgaag tagtatcagg tgccagaagt ctctcagcag ggaagaagca	4440
gcccttcacc aactcctctc cagtgttcc tagcaccata agcaagagat ctaatacatt	4500
aaacttcttg tcaacggaaa ccccccacagt gacaagtct actgctactg catctgtcat	4560
tatgtctgaa acccaacgaa caagatccaa agaagcaaaa gaccaaataa aggggcctcg	4620
gaagaacaga aacaacgcaa acaccacccc caggcaggtt tctggctata gtgcatactc	4680
agctctaaca acagctgata ccccttggc tttcagtcac tccccacgac aagatgatgg	4740
tggaaatgta agtgcagttg cttatcactc aacaacctct cttctggcca taactgaact	4800
gtttgagaag tacaccacaga ctttgggaaa tacaacagct ttggaaacia cgttggtgag	4860
caaatacag gagagtacca cagtgaagag agcctcagac acaccaccac cactcctcag	4920
cagtggggcg cccccagtc cactccttc cccacctct tttactaagg gtgtgggttac	4980
agacagcaaa gtcacatcag ctttccagat gacgtcaaat agagtgggtca ccatatatga	5040
atcttcaagg cacaatacag atctgcagca accctcagca gaggctagcc ccaatcctga	5100
gatcataact ggaaccactg actctccctc taatctgttt ccatccactt ctgtgccagc	5160
actaagggtg gataaaccac agaattctaa atggaagccc tctccctggc cagaacacia	5220
atatcagctc aagtcatact ccgaaaccat tgagaagggc aaaaggccag cagtaagcat	5280
gtccccccac ctcagccttc cagaggccag cactcatgcc tcacactgga atacacagaa	5340
gcatgcagaa aagagtgttt ttgataagaa acctgggtcaa aaccacactt ccaaacatct	5400
gccttacgtc tctctacctc agactctatt gaaaaagcca agaataattg gaggaaggc	5460
tgcaagcttt acagttccag ctaattcaga cgtttttctt ccttgtagag ctgttgagaa	5520
cccactgccc atcatccact ggaccagagt ttcacagga nttgaaatat cccaagggac	5580
acagaaaagc cggttccacg tgcttcccaa tggcaccttg tccatccaga gggtcagtat	5640
tcaggaccgt ggacagtacc tgtgctctgc atttaatcca ctgggcgtag accattttca	5700
tgtctctttg tctgtggttt tttaccggc aaggattttg gacagacatg tcaaggagat	5760

cacagttcac	tttggaagta	ctgtggaact	aaagtgcaga	gtggagggta	tgccgaggcc	5820
tacggtttcc	tggatacttg	caaaccaaac	ggtggtctca	gaaacggcca	agggaagcag	5880
aaaggtctgg	gtaacacctg	atggaacatt	gatcatctat	aatctgagtc	tttatgatcg	5940
tggtttttac	aagtgtgtgg	ccagcaaccc	atctggccag	gattcactgt	tggttaagat	6000
acaagtcac	acagctcccc	ctgtcattat	agagcaaaaag	aggcaagcca	tcgttgggggt	6060
tttaggtgga	agtttgaaac	tgccctgcac	tgcaaaaagga	actccccagc	ctagtgttca	6120
ctgggtcctt	tatgatggga	ctgaactaaa	accattgcag	ttgactcatt	ccagatTTTT	6180
cttgtatcca	aatggaactc	tgtatataag	aagcatcgct	ccttcagtga	ggggcactta	6240
tgagtgcatt	gccaccagct	cctcaggctc	agagagaagg	gtagtgattc	ttactgtgga	6300
agaggggagag	acaatcccca	ggatagaaac	tgctctcag	aaatggactg	aggtgaattt	6360
gggtgagaaa	ttactactga	actgctcagc	tactggggat	ccaaagccta	gaataatctg	6420
gaggctgcc	tccaaggctg	tcacgcacca	gtggcacaga	atgggcagcc	gaatccacgt	6480
ctacccaaat	ggatccttgg	tggttgggtc	agtgcaggaa	aaagacgctg	gtgactactt	6540
atgtgtggca	agaaacaaaa	tgggagatga	cctagtccctg	atgcatgtcc	gcctgagatt	6600
gacacctgcc	aaaattgaac	agaagcagta	ttttaagaag	caagtgctcc	atgggaaaga	6660
tttccaagtt	gactgcaagg	cctctggctc	ccctgtgcct	gaggatatcct	ggagtttgcc	6720
tgatgggaca	gtgctcaaca	atgtagccca	agctgatgac	agtggctata	ggaccaagag	6780
gtacaccctt	ttccacaatg	gaaccttgta	tttcaacaac	gttgggatgg	cagaggaagg	6840
agattatata	tgctctgccc	agaacacctt	agggaaagat	gagatgaaag	tccacctaac	6900
agttctaaca	gccatcccac	ggataaggca	aagctacaag	accaccatga	ggctcagggc	6960
tgagaaaaca	gctgtccttg	actgcgaggt	cactggggaa	ccgaagccca	atgtattttg	7020
gttgctgcct	tccaacaatg	tcatttcatt	ctccaatgac	aggttcacat	ttcatgccaa	7080
tagaactttg	tccatccata	aagtgaaacc	acttgactct	ggggactatg	tgtgcgtagc	7140
tcagaatcct	agtggggatg	acactaagac	atacaaactg	gacattgtct	ctaaacctcc	7200
attaatcaat	ggcctgtatg	caaacaagac	tgttattaaa	gccacagcca	ttcggcactc	7260
caaaaaatac	tttgactgca	gagcagatgg	gatcccatct	tcccagggtca	cgtggattat	7320
gccaggcaat	attttcctcc	cagctccata	ctttggaagc	agagtcacgg	tccatccaaa	7380
tggaaccttg	gagatgagga	acatccggct	ttctgactct	gcggacttca	cctgtgtgggt	7440

tcggagcgag ggaggagaga gtgtgttgggt agtgcagtta gaagtcctag aaatgctgag	7500
aagaccaaca ttcagaaacc cattcaacga aaaagtcatt gcccaagctg gcaagcccgt	7560
agcactgaac tgctctgtgg atgggaaccc cccacctgaa attacctgga tcttacctga	7620
cggcacacag tttgctaaca gaccacacaa tccccgtat ctgatggcag gcaatggctc	7680
tctcatcctt tacaaagcaa ctcggaacaa gtcaggggaag tatcgctgtg cagccaggaa	7740
taaggttggc tacatcgaga aactcatcct gttagagatt gggcagaagc cagtcattct	7800
gacatacgaa ccagggatgg tgaagagcgt cagtggggaa ccgttatcac tgcattgtgt	7860
gtctgatggg atccccaagc caaatgtcaa gtggactaca ccgggtggcc atgtaatcga	7920
caggcctcaa gtggatggaa aatacatact gcatgaaaat ggcacgctgg tcatcaaagc	7980
aacaacagct cagcaccaag gaaattatat ctgtagggtt caaaacagtg ttggccaggc	8040
agttattagc gtgtcagtga tggttgtggc ctaccctccc cgaatcataa actacctacc	8100
caggaacatg ctcaggagga caggggaagc catgcagctc cactgtgtgg ccttgggaat	8160
ccccaagcca aaagtcacct gggagacgcc aagacactcc ctgctctcaa aagcaacagc	8220
aagaaaaccc catagaagtg agatgcttca cccacaaggt acgctgggtca ttcagaatct	8280
ccaaacctcg gattccggag tctataagtg cagagctcag aacctacttg ggactgatta	8340
cgcaacaact tacatccagg tactctgaca ggaaggggga gactaaaatt caacagaagt	8400
ccacatccac agggtttatt ttttgaaga agtttaataa aaggcagcca taggcatgta	8460
aatgagtctg aatacattta cagtattaaa tttacaatgg acatgcgatg agacttgtaa	8520
atgaaagcat tgtgaactga aaccgagtct ctgtggatct caaagcaaac tcttaactta	8580
aggcactttg attttgccaa caaataataa caaacattaa gagaaaaaaaa tgatccacta	8640
cgaaataaca aacggctaata gcacctgaat tctcagtaaa aagacctttc tctcgctaac	8700
agttgccagc tgccctcgtgt ctgtttccta ccaatgtcac aaacatcgca cacagggtga	8760
atggagtcaa cgggaaagat taagtttgcg gtctgtgtaa atctcaatgt acaaattatc	8820
tgtcncctgg ttataaacat tttgataaaa ccgaaaaaaaa aaaaaaaaaa aaaaaaaaaa	8880
aaa	8883

<210> 2  
 <211> 2597  
 <212> PRT  
 <213> Rattus species

<220>

<221> misc\_feature  
 <222> (1)..(2597)  
 <223> 'x' can be any amino acid

<400> 2

```

Met Gln Val Arg Gly Arg Glu Val Ser Gly Leu Leu Ile Ser Leu Thr
1          5          10          15

Ala Val Cys Leu Val Val Thr Pro Gly Ser Arg Ala Cys Pro Arg Arg
          20          25          30

Cys Ala Cys Tyr Val Pro Thr Glu Val His Cys Thr Phe Arg Tyr Leu
          35          40          45

Thr Ser Ile Pro Asp Gly Ile Pro Ala Asn Val Glu Arg Ile Asn Leu
          50          55          60

Gly Tyr Asn Ser Leu Thr Arg Leu Thr Glu Asn Asp Phe Asp Gly Leu
65          70          75          80

Ser Lys Leu Glu Leu Leu Met Leu His Ser Asn Gly Ile His Arg Val
          85          90          95

Ser Asp Lys Thr Phe Ser Gly Leu Gln Ser Leu Gln Val Leu Lys Met
          100          105          110

Ser Tyr Asn Lys Val Gln Ile Ile Arg Lys Asp Thr Phe Tyr Gly Leu
          115          120          125

Gly Ser Leu Val Arg Leu His Leu Asp His Asn Asn Ile Glu Phe Ile
          130          135          140

Asn Pro Glu Ala Phe Tyr Gly Leu Thr Ser Leu Arg Leu Val His Leu
145          150          155          160

Glu Gly Asn Arg Leu Thr Lys Leu His Pro Asp Thr Phe Val Ser Leu
          165          170          175

Ser Tyr Leu Gln Ile Phe Lys Thr Ser Phe Ile Lys Tyr Leu Phe Leu
          180          185          190

Ser Asp Asn Phe Leu Thr Ser Leu Pro Lys Glu Met Val Ser Tyr Met
          195          200          205

Pro Asn Leu Glu Ser Leu Tyr Leu His Gly Asn Pro Trp Thr Cys Asp
          210          215          220

Cys His Leu Lys Trp Leu Ser Glu Trp Met Gln Gly Asn Pro Asp Ile
225          230          235          240

Ile Lys Cys Lys Lys Asp Arg Ser Ser Ser Ser Pro Gln Gln Cys Pro
          245          250          255

Leu Cys Met Asn Pro Arg Ile Ser Lys Gly Arg Pro Phe Ala Met Val
          260          265          270

```

Pro Ser Gly Ala Phe Leu Cys Thr Lys Pro Thr Ile Asp Pro Ser Leu  
275 280 285

Lys Ser Lys Ser Leu Val Thr Gln Glu Asp Asn Gly Ser Ala Ser Thr  
290 295 300

Ser Pro Gln Asp Phe Ile Glu Pro Phe Gly Ser Leu Ser Leu Asn Met  
305 310 315 320

Thr Xaa Xaa Ser Gly Asn Lys Ala Asp Met Val Cys Ser Ile Gln Lys  
325 330 335

Pro Ser Arg Thr Ser Pro Thr Ala Phe Thr Glu Glu Asn Asp Tyr Ile  
340 345 350

Met Leu Asn Ala Ser Phe Ser Thr Asn Leu Val Cys Ser Val Asp Tyr  
355 360 365

Asn His Ile Gln Pro Val Trp Gln Leu Leu Ala Leu Tyr Ser Asp Ser  
370 375 380

Pro Leu Ile Leu Glu Arg Lys Pro Gln Leu Thr Glu Thr Pro Ser Leu  
385 390 395 400

Ser Ser Arg Tyr Lys Gln Val Ala Leu Arg Pro Glu Asp Ile Phe Thr  
405 410 415

Ser Ile Glu Ala Asp Val Arg Ala Asp Pro Phe Trp Phe Gln Gln Glu  
420 425 430

Lys Ile Val Leu Gln Leu Asn Arg Thr Ala Thr Thr Leu Ser Thr Leu  
435 440 445

Gln Ile Gln Phe Ser Thr Asp Ala Gln Ile Ala Leu Pro Arg Ala Glu  
450 455 460

Met Arg Ala Glu Arg Leu Lys Trp Thr Met Ile Leu Met Met Asn Asn  
465 470 475 480

Pro Lys Leu Glu Arg Thr Val Leu Val Gly Gly Thr Ile Ala Leu Ser  
485 490 495

Cys Pro Gly Lys Gly Asp Pro Ser Pro His Leu Glu Trp Leu Leu Ala  
500 505 510

Asp Gly Ser Lys Val Arg Ala Pro Tyr Val Ser Glu Asp Gly Arg Ile  
515 520 525

Leu Ile Asp Lys Asn Gly Lys Leu Glu Leu Gln Met Ala Asp Ser Phe  
530 535 540

Asp Ala Gly Leu Tyr His Cys Ile Ser Thr Asn Asp Ala Asp Ala Asp  
545 550 555 560

Val Leu Thr Tyr Arg Ile Thr Val Val Glu Pro Tyr Gly Glu Ser Thr  
565 570 575



His Asp Ser Gly Val Gln His Thr Val Val Thr Gly Glu Thr Leu Asp  
580 585 590

Leu Pro Cys Leu Ser Thr Gly Val Pro Asp Ala Ser Ile Ser Trp Ile  
595 600 605

Leu Pro Gly Asn Thr Val Phe Ser Gln Pro Ser Arg Asp Arg Gln Ile  
610 615 620

Leu Asn Asn Gly Thr Leu Arg Ile Leu Gln Val Thr Pro Lys Asp Gln  
625 630 635 640

Gly His Tyr Gln Cys Val Ala Ala Asn Pro Ser Gly Ala Asp Phe Ser  
645 650 655

Ser Phe Lys Val Ser Val Gln Lys Lys Gly Gln Arg Met Val Glu His  
660 665 670

Asp Arg Glu Ala Gly Gly Ser Gly Leu Gly Glu Pro Asn Ser Ser Val  
675 680 685

Ser Leu Lys Gln Pro Ala Ser Leu Lys Leu Ser Ala Ser Ala Leu Thr  
690 695 700

Gly Ser Glu Ala Gly Lys Gln Val Ser Gly Val His Arg Lys Asn Lys  
705 710 715 720

His Arg Asp Leu Ile His Arg Arg Arg Gly Asp Ser Thr Leu Arg Arg  
725 730 735

Phe Arg Glu His Arg Arg Gln Leu Pro Leu Ser Ala Arg Arg Ile Asp  
740 745 750

Pro Gln Arg Trp Ala Ala Leu Leu Glu Lys Ala Lys Lys Asn Ser Val  
755 760 765

Pro Lys Lys Gln Glu Asn Thr Thr Val Lys Pro Val Pro Leu Ala Val  
770 775 780

Pro Leu Val Glu Leu Thr Asp Glu Glu Lys Asp Ala Ser Gly Met Ile  
785 790 795 800

Pro Pro Asp Glu Glu Phe Met Val Leu Lys Thr Lys Ala Ser Gly Val  
805 810 815

Pro Gly Arg Ser Pro Thr Ala Asp Ser Gly Pro Val Asn His Gly Phe  
820 825 830

Met Thr Ser Ile Ala Ser Gly Thr Glu Val Ser Thr Val Asn Pro Gln  
835 840 845

Thr Leu Gln Ser Glu His Leu Pro Asp Phe Lys Leu Phe Ser Val Thr  
850 855 860

Asn Gly Thr Ala Val Thr Lys Ser Met Asn Pro Ser Ile Ala Ser Lys  
865 870 875 880

Ile	Glu	Asp	Thr	Thr	Asn	Gln	Asn	Pro	Ile	Ile	Ile	Phe	Pro	Ser	Val	
					885				890					895		
Ala	Glu	Ile	Arg	Asp	Ser	Ala	Gln	Ala	Gly	Arg	Ala	Ser	Ser	Gln	Ser	
			900					905					910			
Ala	His	Pro	Val	Thr	Gly	Gly	Asn	Met	Ala	Thr	Tyr	Gly	His	Thr	Asn	
		915					920					925				
Thr	Tyr	Ser	Ser	Phe	Thr	Ser	Lys	Ala	Ser	Thr	Val	Leu	Gln	Pro	Ile	
	930					935					940					
Asn	Pro	Thr	Glu	Ser	Tyr	Gly	Pro	Gln	Ile	Pro	Ile	Thr	Gly	Val	Ser	
945					950					955					960	
Arg	Pro	Ser	Ser	Ser	Asp	Ile	Ser	Ser	His	Thr	Thr	Ala	Asp	Pro	Ser	
				965					970						975	
Phe	Ser	Ser	His	Pro	Ser	Gly	Ser	His	Thr	Thr	Ala	Ser	Ser	Leu	Phe	
			980					985						990		
His	Ile	Pro	Arg	Asn	Asn	Asn	Thr	Gly	Asn	Phe	Pro	Leu	Ser	Arg	His	
		995					1000						1005			
Leu	Gly	Arg	Glu	Arg	Thr	Ile	Trp	Ser	Arg	Gly	Arg	Val	Lys	Asn		
	1010					1015					1020					
Pro	His	Arg	Thr	Pro	Val	Leu	Arg	Arg	His	Arg	His	Arg	Thr	Val		
	1025					1030					1035					
Arg	Pro	Ala	Ile	Lys	Gly	Pro	Ala	Asn	Lys	Asn	Val	Ser	Gln	Val		
	1040					1045					1050					
Pro	Ala	Thr	Glu	Tyr	Pro	Gly	Met	Cys	His	Thr	Cys	Pro	Ser	Ala		
	1055					1060					1065					
Glu	Gly	Leu	Thr	Val	Ala	Thr	Ala	Ala	Leu	Ser	Val	Pro	Ser	Ser		
	1070					1075					1080					
Ser	His	Ser	Ala	Leu	Pro	Lys	Thr	Asn	Asn	Val	Gly	Val	Ile	Ala		
	1085					1090					1095					
Glu	Glu	Ser	Thr	Thr	Val	Val	Lys	Lys	Pro	Leu	Leu	Leu	Phe	Lys		
	1100					1105					1110					
Asp	Lys	Gln	Asn	Val	Asp	Ile	Glu	Ile	Ile	Thr	Thr	Thr	Thr	Lys		
	1115					1120					1125					
Tyr	Ser	Gly	Gly	Glu	Ser	Asn	His	Val	Ile	Pro	Thr	Glu	Ala	Ser		
	1130					1135					1140					
Met	Thr	Ser	Ala	Pro	Thr	Ser	Val	Ser	Leu	Gly	Lys	Ser	Pro	Val		
	1145					1150					1155					
Asp	Asn	Ser	Gly	His	Leu	Ser	Met	Pro	Gly	Thr	Ile	Gln	Thr	Gly		
	1160					1165					1170					



Ser	Pro	Pro	Pro	Phe	Thr	Lys	Gly	Val	Val	Thr	Asp	Ser	Lys	Val	1460	1465	1470
Thr	Ser	Ala	Phe	Gln	Met	Thr	Ser	Asn	Arg	Val	Val	Thr	Ile	Tyr	1475	1480	1485
Glu	Ser	Ser	Arg	His	Asn	Thr	Asp	Leu	Gln	Gln	Pro	Ser	Ala	Glu	1490	1495	1500
Ala	Ser	Pro	Asn	Pro	Glu	Ile	Ile	Thr	Gly	Thr	Thr	Asp	Ser	Pro	1505	1510	1515
Ser	Asn	Leu	Phe	Pro	Ser	Thr	Ser	Val	Pro	Ala	Leu	Arg	Val	Asp	1520	1525	1530
Lys	Pro	Gln	Asn	Ser	Lys	Trp	Lys	Pro	Ser	Pro	Trp	Pro	Glu	His	1535	1540	1545
Lys	Tyr	Gln	Leu	Lys	Ser	Tyr	Ser	Glu	Thr	Ile	Glu	Lys	Gly	Lys	1550	1555	1560
Arg	Pro	Ala	Val	Ser	Met	Ser	Pro	His	Leu	Ser	Leu	Pro	Glu	Ala	1565	1570	1575
Ser	Thr	His	Ala	Ser	His	Trp	Asn	Thr	Gln	Lys	His	Ala	Glu	Lys	1580	1585	1590
Ser	Val	Phe	Asp	Lys	Lys	Pro	Gly	Gln	Asn	Pro	Thr	Ser	Lys	His	1595	1600	1605
Leu	Pro	Tyr	Val	Ser	Leu	Pro	Lys	Thr	Leu	Leu	Lys	Lys	Pro	Arg	1610	1615	1620
Ile	Ile	Gly	Gly	Lys	Ala	Ala	Ser	Phe	Thr	Val	Pro	Ala	Asn	Ser	1625	1630	1635
Asp	Val	Phe	Leu	Pro	Cys	Glu	Ala	Val	Gly	Asp	Pro	Leu	Pro	Ile	1640	1645	1650
Ile	His	Trp	Thr	Arg	Val	Ser	Ser	Gly	Xaa	Glu	Ile	Ser	Gln	Gly	1655	1660	1665
Thr	Gln	Lys	Ser	Arg	Phe	His	Val	Leu	Pro	Asn	Gly	Thr	Leu	Ser	1670	1675	1680
Ile	Gln	Arg	Val	Ser	Ile	Gln	Asp	Arg	Gly	Gln	Tyr	Leu	Cys	Ser	1685	1690	1695
Ala	Phe	Asn	Pro	Leu	Gly	Val	Asp	His	Phe	His	Val	Ser	Leu	Ser	1700	1705	1710
Val	Val	Phe	Tyr	Pro	Ala	Arg	Ile	Leu	Asp	Arg	His	Val	Lys	Glu	1715	1720	1725
Ile	Thr	Val	His	Phe	Gly	Ser	Thr	Val	Glu	Leu	Lys	Cys	Arg	Val	1730	1735	1740

Glu Gly Met Pro Arg Pro Thr Val Ser Trp Ile Leu Ala Asn Gln	1745	1750	1755
Thr Val Val Ser Glu Thr Ala Lys Gly Ser Arg Lys Val Trp Val	1760	1765	1770
Thr Pro Asp Gly Thr Leu Ile Ile Tyr Asn Leu Ser Leu Tyr Asp	1775	1780	1785
Arg Gly Phe Tyr Lys Cys Val Ala Ser Asn Pro Ser Gly Gln Asp	1790	1795	1800
Ser Leu Leu Val Lys Ile Gln Val Ile Thr Ala Pro Pro Val Ile	1805	1810	1815
Ile Glu Gln Lys Arg Gln Ala Ile Val Gly Val Leu Gly Gly Ser	1820	1825	1830
Leu Lys Leu Pro Cys Thr Ala Lys Gly Thr Pro Gln Pro Ser Val	1835	1840	1845
His Trp Val Leu Tyr Asp Gly Thr Glu Leu Lys Pro Leu Gln Leu	1850	1855	1860
Thr His Ser Arg Phe Phe Leu Tyr Pro Asn Gly Thr Leu Tyr Ile	1865	1870	1875
Arg Ser Ile Ala Pro Ser Val Arg Gly Thr Tyr Glu Cys Ile Ala	1880	1885	1890
Thr Ser Ser Ser Gly Ser Glu Arg Arg Val Val Ile Leu Thr Val	1895	1900	1905
Glu Glu Gly Glu Thr Ile Pro Arg Ile Glu Thr Ala Ser Gln Lys	1910	1915	1920
Trp Thr Glu Val Asn Leu Gly Glu Lys Leu Leu Leu Asn Cys Ser	1925	1930	1935
Ala Thr Gly Asp Pro Lys Pro Arg Ile Ile Trp Arg Leu Pro Ser	1940	1945	1950
Lys Ala Val Ile Asp Gln Trp His Arg Met Gly Ser Arg Ile His	1955	1960	1965
Val Tyr Pro Asn Gly Ser Leu Val Val Gly Ser Val Thr Glu Lys	1970	1975	1980
Asp Ala Gly Asp Tyr Leu Cys Val Ala Arg Asn Lys Met Gly Asp	1985	1990	1995
Asp Leu Val Leu Met His Val Arg Leu Arg Leu Thr Pro Ala Lys	2000	2005	2010
Ile Glu Gln Lys Gln Tyr Phe Lys Lys Gln Val Leu His Gly Lys	2015	2020	2025

Asp	Phe	Gln	Val	Asp	Cys	Lys	Ala	Ser	Gly	Ser	Pro	Val	Pro	Glu	2030	2035	2040
Val	Ser	Trp	Ser	Leu	Pro	Asp	Gly	Thr	Val	Leu	Asn	Asn	Val	Ala	2045	2050	2055
Gln	Ala	Asp	Asp	Ser	Gly	Tyr	Arg	Thr	Lys	Arg	Tyr	Thr	Leu	Phe	2060	2065	2070
His	Asn	Gly	Thr	Leu	Tyr	Phe	Asn	Asn	Val	Gly	Met	Ala	Glu	Glu	2075	2080	2085
Gly	Asp	Tyr	Ile	Cys	Ser	Ala	Gln	Asn	Thr	Leu	Gly	Lys	Asp	Glu	2090	2095	2100
Met	Lys	Val	His	Leu	Thr	Val	Leu	Thr	Ala	Ile	Pro	Arg	Ile	Arg	2105	2110	2115
Gln	Ser	Tyr	Lys	Thr	Thr	Met	Arg	Leu	Arg	Ala	Gly	Glu	Thr	Ala	2120	2125	2130
Val	Leu	Asp	Cys	Glu	Val	Thr	Gly	Glu	Pro	Lys	Pro	Asn	Val	Phe	2135	2140	2145
Trp	Leu	Leu	Pro	Ser	Asn	Asn	Val	Ile	Ser	Phe	Ser	Asn	Asp	Arg	2150	2155	2160
Phe	Thr	Phe	His	Ala	Asn	Arg	Thr	Leu	Ser	Ile	His	Lys	Val	Lys	2165	2170	2175
Pro	Leu	Asp	Ser	Gly	Asp	Tyr	Val	Cys	Val	Ala	Gln	Asn	Pro	Ser	2180	2185	2190
Gly	Asp	Asp	Thr	Lys	Thr	Tyr	Lys	Leu	Asp	Ile	Val	Ser	Lys	Pro	2195	2200	2205
Pro	Leu	Ile	Asn	Gly	Leu	Tyr	Ala	Asn	Lys	Thr	Val	Ile	Lys	Ala	2210	2215	2220
Thr	Ala	Ile	Arg	His	Ser	Lys	Lys	Tyr	Phe	Asp	Cys	Arg	Ala	Asp	2225	2230	2235
Gly	Ile	Pro	Ser	Ser	Gln	Val	Thr	Trp	Ile	Met	Pro	Gly	Asn	Ile	2240	2245	2250
Phe	Leu	Pro	Ala	Pro	Tyr	Phe	Gly	Ser	Arg	Val	Thr	Val	His	Pro	2255	2260	2265
Asn	Gly	Thr	Leu	Glu	Met	Arg	Asn	Ile	Arg	Leu	Ser	Asp	Ser	Ala	2270	2275	2280
Asp	Phe	Thr	Cys	Val	Val	Arg	Ser	Glu	Gly	Gly	Glu	Ser	Val	Leu	2285	2290	2295
Val	Val	Gln	Leu	Glu	Val	Leu	Glu	Met	Leu	Arg	Arg	Pro	Thr	Phe	2300	2305	2310

Arg	Asn	Pro	Phe	Asn	Glu	Lys	Val	Ile	Ala	Gln	Ala	Gly	Lys	Pro
2315						2320					2325			
Val	Ala	Leu	Asn	Cys	Ser	Val	Asp	Gly	Asn	Pro	Pro	Pro	Glu	Ile
2330						2335					2340			
Thr	Trp	Ile	Leu	Pro	Asp	Gly	Thr	Gln	Phe	Ala	Asn	Arg	Pro	His
2345						2350					2355			
Asn	Ser	Pro	Tyr	Leu	Met	Ala	Gly	Asn	Gly	Ser	Leu	Ile	Leu	Tyr
2360						2365					2370			
Lys	Ala	Thr	Arg	Asn	Lys	Ser	Gly	Lys	Tyr	Arg	Cys	Ala	Ala	Arg
2375						2380					2385			
Asn	Lys	Val	Gly	Tyr	Ile	Glu	Lys	Leu	Ile	Leu	Leu	Glu	Ile	Gly
2390						2395					2400			
Gln	Lys	Pro	Val	Ile	Leu	Thr	Tyr	Glu	Pro	Gly	Met	Val	Lys	Ser
2405						2410					2415			
Val	Ser	Gly	Glu	Pro	Leu	Ser	Leu	His	Cys	Val	Ser	Asp	Gly	Ile
2420						2425					2430			
Pro	Lys	Pro	Asn	Val	Lys	Trp	Thr	Thr	Pro	Gly	Gly	His	Val	Ile
2435						2440					2445			
Asp	Arg	Pro	Gln	Val	Asp	Gly	Lys	Tyr	Ile	Leu	His	Glu	Asn	Gly
2450						2455					2460			
Thr	Leu	Val	Ile	Lys	Ala	Thr	Thr	Ala	His	Asp	Gln	Gly	Asn	Tyr
2465						2470					2475			
Ile	Cys	Arg	Ala	Gln	Asn	Ser	Val	Gly	Gln	Ala	Val	Ile	Ser	Val
2480						2485					2490			
Ser	Val	Met	Val	Val	Ala	Tyr	Pro	Pro	Arg	Ile	Ile	Asn	Tyr	Leu
2495						2500					2505			
Pro	Arg	Asn	Met	Leu	Arg	Arg	Thr	Gly	Glu	Ala	Met	Gln	Leu	His
2510						2515					2520			
Cys	Val	Ala	Leu	Gly	Ile	Pro	Lys	Pro	Lys	Val	Thr	Trp	Glu	Thr
2525						2530					2535			
Pro	Arg	His	Ser	Leu	Leu	Ser	Lys	Ala	Thr	Ala	Arg	Lys	Pro	His
2540						2545					2550			
Arg	Ser	Glu	Met	Leu	His	Pro	Gln	Gly	Thr	Leu	Val	Ile	Gln	Asn
2555						2560					2565			
Leu	Gln	Thr	Ser	Asp	Ser	Gly	Val	Tyr	Lys	Cys	Arg	Ala	Gln	Asn
2570						2575					2580			
Leu	Leu	Gly	Thr	Asp	Tyr	Ala	Thr	Thr	Tyr	Ile	Gln	Val	Leu	
2585						2590					2595			

<210> 3  
 <211> 11967  
 <212> DNA  
 <213> mouse sp  
  
 <220>  
 <221> misc\_feature  
 <222> (1)..(11967)  
 <223> 'n' can be any nucleotide 'a', 'c', 'g' or 't'.

<400> 3  
 tttggaacca acccagatgc ccctcaacag agaaatgggc cagaaaatgt ggtccattta 60  
 tccaatggaa tactactcaa cttattaaaa acaacgactt tcataaaatt tttaggcaaa 120  
 tgnatgggtct gnaggatctt gagtgaggta acccaatcac aaaagaacac tcatgggtatg 180  
 cactcactga taagtggcta tttgtctatg gagtgattta aaagggaaga agacacatag 240  
 ctttttgtgt gtataatatt aagatggaaa tttgccagtg ctgtttggct tatgagtga 300  
 tcttgtttca gtggattacc ggaagaaaat aataagtga ctgtaggaag aagtagtta 360  
 tcaagggtgac aaagtatcct gacacattgg gaaaagacca cagtccagga aactgagtct 420  
 taaggattca tattaactcc agttcccat gtgcagctct gagactttgg cagatcagac 480  
 acttaacttc accagcttcc tacacagagc agttactatc cttgcacttc acacatggag 540  
 tgtgaccatt aagctgcact gaaacatgag tctgacttgt taataatctt aaaatacaaa 600  
 ttgtgttgta aagtatgtga ccaaagagca tggatcatgct attaaccttt gatgttctat 660  
 ggactcttaa ttttatggta gaaatgtcaa caagcttgtg gaggctggaa gatacaaggc 720  
 ttaagaggat ggcctttcag ttttgaaagt aattcagtat gtgttctggc atcccttttc 780  
 ctaaagcaat ttaaccccc aagtaggcat aattttaatg cttacttcat cagaatatgt 840  
 ctaattgact cttctaaaaa gactttggta tgcataaggat ctaaagttaa atgtgattta 900  
 ctgacataat aaataggaga aactgagcta gaataggat aaaatatgtg ctggctttct 960  
 aataggctct atagggtata taagagggtg gaaaggaata tttgaaacat ctagaagtaa 1020  
 aatgatcctg agtagcgatc ctgggaaaat acgtactcta acacactgca atcatctctc 1080  
 tgtgggttgc tggagctgag gtctggaagg ctcgaccttg gttagaaata acctaccgaa 1140  
 tacagagcta tgacgttagt ctggaaggag ctttggaaga atgacaagct gtagctgccc 1200  
 agaacatact agatgccata tttccaaggc aagtgtccac atgcggacat cttagaata 1260  
 tggttgtctc tgcagtgcta aggaccttgt tcgtgccaca caggctctca gggtagtgc 1320



taactctgac tgcttgactc ttttaattcta ccttgatcat taatgactag aaatcacttg	1380
gtgattagca actggatatg gaatattact aatttgtacc caagccaggc cacctcagct	1440
ttggcagctc cattcattct gtggagccca gtcacgtggg tttgaatcaa ctgtactgtt	1500
tctacttaca agacgcatta cctgagatga gtcatttttc ttcacaagtc tttttagaag	1560
agtcaattag acatattctg atgaagtaag catataaagt gagagcagca tgaatgtgtt	1620
ccatgtatgc tcatggatgc tattataatg tggaaataaa ctgactttta aaaaaaagc	1680
ttatgatact tgtcacagag taaatcttcc ataaatatca tctgcattta taaattattt	1740
tcataatcca tcaattaaaa acctttagaa attttgttaa cacaaagatc cctaggcccc	1800
tgccttagga tggctgtat ggtgggctg agagatggag cttagaact tacttgctcc	1860
aggagcacat cttcagaaca tctgcctcaa aacatttacc ccaaagtctc atcaaaggct	1920
cactcacatg tgcttcaacc acagggatta aacagtcatt ttagtcacat ttctcaaacg	1980
gtggaagcct gctagaggaa caggatgtat caggataaca tccaacctta caaaaggatg	2040
tcataaccct caccacaaca aacaacaacg acaacaaacc cataaaaatt atcacggcaa	2100
atgaactaag ccatatgcag aaaaagtatt atatgttctc attgtgggtt gtttttcctt	2160
aatagtcaaa tatgcagaat atagacaaag atggtttatg caagtgggga tggcgaagga	2220
tacttgtaga ttagaggaca caaagcaaca actacagagt gaagtaatcc agagacttaa	2280
tgtataatat gaggactgta ttttaataatt ctatttaaga tacacagcaa acgagtgtat	2340
cttactaaca cacacactta catagagaga ataaagtgat agatacgttt gttttatctt	2400
catgtagctg ataatttcat attgtacacc tcaaacatag ataaccaaca aagaggaaga	2460
ggataggtgc ctctcccagg gcggaagagt acattcgaaa gtcagacacc attgtgtaga	2520
tgtaccacat ggaggagcta gagaaagtag ccaaggagct aaagggatct gcaaccctat	2580
aggtggaaca acattatgag ctaaccagta ccccgagct cttgactcta gctgcatata	2640
tatcaaaaga tggcctaata gccatcact ggaaagagag gccattgga cttgcaaact	2700
ttatatgcc cagtacaggg gaataccagg gccaaaaagg gggagtgggt gggcagggga	2760
gtgggggtg gtggatatgg gggacttttg gtatagcatt ggaaatgtaa atgagttaaa	2820
tacctaataa aaaatggaaa aaaaaaaaaa aaaaaaaaaa aaggaaggct agacacctca	2880
cttactgct atctcaactt gcaaacagaa ggggagtcac aaaccagga caaaccacag	2940
tgattgaagc gtctttgaat gttattgctg ttgttggtac caccatcatt agcatatatt	3000
cattgtgaaa acttacgggg tctatgacat gtttttttat tcaagtatat cacatgctgt	3060

cagcatat	ttt	ggcacc	acta	ccagcccc	cag	ccccct	tttgc	cccgcccc	cca	acacacac	ac	3120				
acacacac	acacacac	acacacac	acacacac	acacacac	acacacac	ct	ttctct	tt	accttctc			3180				
ctgggcat	ca	tctgtc	act	caccac	ccca	agctta	aatcc	ttttcctt	cc	ctgcaatag	t	3240				
acctctc	cta	ttttat	gtc	taggtt	cccc	ctcccc	ctgt	taggagat	gg	gagagg	tcac	3300				
gaaagg	aaa	aattt	gtag	c	cctgag	cca	gcccggg	cca	cagagc	ctgc	caccagac	ag	3360			
gaaaag	ccca	gggctt	acca	gcacag	gagg	agcaa	actcg	caggcg	agcc	tgggtt	ggcg	3420				
ctgggt	gg	tcc	cg	gg	t	cgatg	gcccc	ccat	tcccaga	agc	cgaggctata	gctgcgtcac	3480			
ctgcccc	g	ctcctccc	ga	gtgaag	accc	ctagagg	ctg	agcagac	cccc	aaaggc	gg	gtg	3540			
caattcc	att	ggcccc	aagg	c	agagg	t	gagc	ggctg	cta	at	cccctc	ggga	ag	tgaagg	ga	3600
cccagag	agt	ctgg	tagatg	tggg	agct	gg	gttcagg	gc	gagacag	agg	gtggg	atggg				3660
cagaagg	gtc	caggaaa	agg	aaagt	act	gg	agggg	agt	t	ggacaaa	agc	agcgac	caag			3720
ggaacat	cgc	ttcagt	gact	gaagc	cagg	c	aaaagg	agc	g	ggaagg	atta	tatgtag	cct			3780
gggacg	cttt	cataaa	caact	gatgac	gtg	ttgtg	caaag	caagca	at	tt	gaggaga	aac				3840
gcctggg	acg	tcggaa	agaa	ggagt	gatc	g	attagt	actt	gtaag	tttag	gtgag	tttga				3900
gaactaa	cta	acctata	cta	ttgagg	gaga	aggaag	agca	ttccag	cagc	agcag	cagca					3960
gcagca	atca	gataa	aggaa	agcttt	gg	tt	agttt	ggaaa	tgtat	gatac	cattaaa	ata				4020
acagaag	cgc	ctccag	ttct	ctgaag	agtc	ag	tcccc	cag	ctagt	gaaga	ctaagc	ctac				4080
taagc	cttt	gtcccc	gtt	gaagcaa	aga	acgttc	cttc	aatcag	gtga	aggctc	ctct					4140
cagaag	attt	cctgtc	ctctg	cttatg	ttac	aagagg	attc	aaaag	caaga	cagaag	agct					4200
cagg	tattgc	caactc	tttt	gttaa	ataca	gtttg	aggct	taagt	gtacg	ggaact	catg					4260
tgg	tattcat	ttacgg	ctct	cttctc	ttat	aacta	actct	taagg	tgc	atag	tctctt					4320
ctgtt	tccca	gtac	cttgt	accatc	tttg	tttatc	t	aatag	caagc	tcatc	tgtt					4380
ttta	atcatc	acgcag	agag	tattca	aaaa	tattcag	tga	tgtaac	agtg	acagt	gtagg					4440
cataga	agta	atcatt	agta	aatct	taatt	tgggt	t	ta	ttcataa	cagct	ccagg					4500
ttggg	agggga	t	actgag	cc	ttcgcc	acgt	gcggg	t	taaa	gatatt	tttct	aacaag	agaa			4560
gcaga	attct	tcctt	ggcca	tgctccc	cat	cactgt	gtca	gtaag	cagag	gggtg	tttcc					4620
aagcag	agaa	agagcag	aca	gtgttat	gcc	tgcaa	agtca	gagact	cagc	cctccc	agct					4680
ggtcag	ttta	ctgtc	ctccc	gg	t	cattag	tggctc	t	gaa	aaggccc	atg	tgtc	cttatt			4740

ggcaaggact tgcagacatg ctagaaagaa atttgacctt tttttctagt gggttattac	4800
agctgtaaaa gtatttttga aggttaagcc aaataaataa aacacatatt aaataatata	4860
atgttacaaa aattgatcat ataaagaagt acattcataa atgcaatgtg aaaaatatat	4920
ataattttta tctattttact ggtgcaaagt tttctaaatt gcacatgtac tatttttata	4980
tttataaaaa tattttttaa atgtatataa aagtgtaaaa ggctcttggt caaacaagag	5040
agttaaattt acaaacttta attgtcccga taacattatt atgatctcta atgacaggga	5100
tcctgctttt cattgggaaa tgagaagcta tgaagatatg tttacaataa taagcccatt	5160
tagtgataaa gtccaatggg aagctagcac aactgggtt ataaagagaa cagtttcctg	5220
agtctatgca agttttacact ctagggaata agagttcctc tttctccaga tttcactagc	5280
at ttgtgtgc atcattttatc ttcttgatga tgagcattat aagtggaata agataggatc	5340
tcaaaggaat gtcaatttgg atgccctgaa caatctttca ggtctttctt tcagttcact	5400
agtctattca tttattggat aattggggga tgggtgttaat ttttttgcag ttcttatgga	5460
attccaaaaa acaaaaaaca aacaaacaaa caaaaaacct ctgaaactag aactaccaat	5520
ccattactgg gtatgtaaca aagagaaatc tgcacagaat ttattgctac attgttcatt	5580
attcacgaca gccagaatg tggaaccaac ttacgtagcc gtcaaaatat gaacggataa	5640
agaaaatgtg gaaatgtgta caacagagtc ccatgtggcc ataaaagagt gaaatcatga	5700
catatgcagg aaatggatgc aactggaaat caattgggct aatcaaaaca agacagactc	5760
aaaaaggaaa caccgtgtag cttctctgac aaacagaagc tagatttaca cttgtacgtg	5820
cgcattgtgtg tttagaattt tatttagtta tacactattc taatctgtga gtgtgtataa	5880
aggcatgcat gtaaagcaaa aacaagctag ctgggggtggg taggagagaa agcaatgaga	5940
ggagttaata agaacgaagc atagtaacat aggtgccagg atgaaatgca ttaatttgta	6000
tgctaactaa accacagaca ggaggcacac gttcaaacca gggtgaaatc ccagcacaga	6060
gaaggggaag tagacacaaa gtttcgccac taaccaagaa gccatttgca gttgctgcct	6120
gctgggaggg gcgttccagt tttctccagt ctgacactgt gtataacaac cagttgacaa	6180
tacaaagttg gcatgatgga tggtttttgt gctatttttc attttttttc ttactgtttt	6240
gttggtgtgg tgggtgttgt ggtgggtggc gtgggtttca tttgtttctt ttgagagaga	6300
gaaggaacat gaaattgggt gggtaggaag ctggaaacga tctggaagaa gttggggaaa	6360
gagaaaaatt gtatggagca tattttaaca aacaaacaaa caaacaaaag gttcattttg	6420
ccacaaaaag gtgtgaatta aattaaccag ttacgactct taaagaaaat attcccaatt	6480

attcccagag ttgctatgta tgctgtgcct aggactttgc ttgaactggc cctataactc	6540
tggtgtggtg tcttttcagg atgcagaaga gaggcagggg agtcagctgc ttgctgatct	6600
ccctcactgc catctgcctg gtggtcaccc ctgggagcag ggtctgtcct cgccgatgtg	6660
cctgctatgt gccacagag gtgcactgta catttcggga cctgacctcc atcccagacg	6720
ggcatcccag ccaatgtgga acgagtcaat ttaggggtgtg tggaccttgc ctgatctcct	6780
tctcagagag ggaccactga ttttcctggg actttgcccc ccaaacacct gtgattactt	6840
ttaatagttt tcttctaaaa tgggttcata caaaccttat attgtggaga caatgaacat	6900
tttatcccaa tagtctttta ctagaacttg aagcccctct tagttgtttg ggagcctcat	6960
aattatgggg cagctttatt ctgaatgaat tttaaataaa aaagatacag tttctgttaa	7020
caatcattat gataccaagg aagaggaatt gtcattgaat attttaaaaa agcatttctt	7080
ttgcaattta taaataccca ttacaaaatg gcttacttaa aatacttgcc ttactaaatc	7140
tgacaaatta tggtgatatt ttgaagggtt atgaaaattt gtttatgtgt ataaatgcac	7200
aagaaatggg atatgccatc acctatgtgc cattagttag catgtacagt atgccaacaa	7260
ctattgttca cgtttgaggg aagtaatggg ggtgggggag caacaagggt tataaccgta	7320
taccagtgct cttggaagcg attgcaaaca gtaaagactg acattgtgtt ctccctatga	7380
gggagggggc ttgggctgag cactttgcaa tgagcatttg ctcatgtgct tggcagggtt	7440
tatgataact tgaccaagc tagagtcact ggagaggaag gaacttcaac tgagaacatg	7500
cctgaagaag atcagattat aggcaggcct gtggggcatt ttcttaatta gtgattcatg	7560
gggcaggggc cagtccattg ttcgtggtac catttctcag gcactattaa aaaaaaaaaa	7620
acaggctgag caagtgtcaa ggagcaagtc agtgagcagc agccctaag atctctgcat	7680
cagctcctgc ctccagggtc ctacctatt tgagttcctg tcctagctcc ctacagtgat	7740
gaacaatgat gtggaagtat aagccaaata aatcctttct tccccaaact gctgttggtc	7800
atgatgtttc atcacagtga taatagtcct catgaagatg ctggtgttta taacaccttt	7860
ggactaaatt ctgttatcta tagctgagga aaatggagca tagaaagtct ccagactaca	7920
ccagagtgta atctgggcct gagcttagaa tcacacccac gtgcactcca ctgccggggc	7980
ttcttaaccg gaacacagtt gtaaaaggga attttctgtt tgtttccatt ttgacatgtg	8040
gactttaatt gacgattcat ctgaagctga aaatgatatt ttttccagg ataacagcct	8100
cactagattg acagaaaatg acttttctgg cctgagcaga ctggagttac tcatgctgca	8160

cagcaatggc attcacagag tcagtgcaca gaccttctcg ggcttgcagt ccttgcaggt	8220
gagataggta gaggggtgatg gaggctgaga agagaggtgc aactgtgggt tatacccaaa	8280
agctgctgat tcccgtggga gacattctat aagcattcta taaactagag gcagatatca	8340
aggaaggatt tcaattgtaa tgcaatttta tgagaaaatt tgaatattaa gaaaatgctg	8400
gggaaaatgc ttacacaatt gcgaggacct aatttaggat ctccaatagc cacataaaaa	8460
gcacagcatg gcggcagaca cctgcaattc ctgtccctgg aagcacctgt tcagaatccc	8520
agagactcat tggccaaaca ctctattcaa tcaatgaagt ccatattcag tgacaaaact	8580
tgactcagaa actaatgtgg aaagcatcag gaagacagcc aacatctggt ctctactcat	8640
gcatgaataa gggatcccag agagaaggga agaaaaagga aggaaggaag gaaggaagga	8700
aggaaggaag gaaggaagga aggaaggaag agagggagga aaggaggag ggaaggaagg	8760
aaagggaaag gaaaaaagag atggggaggg aggggaaggaa aggaaagggg gagaaagaag	8820
agaagaaagg aaaataaata aattttcagg gattattaca cttttaaatt ttatccataa	8880
aaggtcattt ccacctgttt gtctggaagt agagtgggat cccttatata agggcagtct	8940
ttaacatagt agcattttat aaaccattac aaattttgag ttttctctac tttttatcct	9000
ctaccatctt caaactgaaa ctacaattat tcccacaaat gaagaaaatg ctgtaagagt	9060
tttcacacac cgaagtggga aacttaagga ttagacaagt ctaacaatga gaatggggag	9120
aacaaaaaga gactgcacag ggagcccttt ctctgcttat aatcttgaca cttgagaagc	9180
taattgacgc tgcattgacta ctcaactctt taagcaaaca atgctgttgt tcatgaaaag	9240
cacaataaag tacatatgtc ccataatatt catcaaaatt tgcattgcagc acataatagc	9300
aatcaaagca ataacaccca ctgttcacag agactttaaa catgaaactg gaactatgtc	9360
tagtgttttg acttagggta catagtatgc tgtgtctgta tgtaccaatg ttgatttagg	9420
tcatcagaca gcatttggaa catgtatctt caggaggaat cattcatgta tcctgcatga	9480
aattctccac ctatgtttat tctcttagcc aggtttttct ctgatggaga aacattgggt	9540
ttgaggtttt actcccagg t aacatttagg gaaaagctgt ctatgttctc agtttggtt	9600
ttattttatga gggatgttgg tattccagaa aattctcttt tgaagagatt acaatttagg	9660
tcaaaacaga aaaatatgta aaaagttatt gtttttatta gtatttcattg ttcttttctt	9720
ttttaaaaaat ggtatgctta gaactaatta agatttagatt agatttagatt agaaaataat	9780
cagagaggga tttgatgaat gctaaagcat catgaaaaat tcaaaatttt ttgcttctaa	9840
ttcagaatca attaaattca tattactata aaagacagca cgccagatgt gtgccagctg	9900

aggagtggat aaactgtgta acgtgagtgc tatgtagaaa cagaaaggag tgaagggttg 9960  
atgtgcgctg caacatcttg aaaacattcg gctacatgat ggaagccagg cacaaaaagc 10020  
cacatattgc atggttatgt ttatatgaaa tggtttaaaat acatggattc ttagcaaaca 10080  
gagtaagatg ttacttaggg tcaggaaaag attaaaaaaaa aaaaaactat tgatgtggaa 10140  
tgatcttaat ttggggaaaa gacaatttcc taagacgaaa tagttgaggt agatatagtt 10200  
atatccctgt ggatattgta ataaaccagc atgctgtgct ctgagaaggg cctaatgaag 10260  
gggcaggagg aagtgaaatg agatggtaga aaggaaagtc atataccatg gcttctctcg 10320  
tggttggaat ctagatatgt taatatattg acataaagga aggaattgtt tagggaagga 10380  
tcaaaaccaa caggagttag ggagacaata ggaaccaatg agaggcaaag ttcattggta 10440  
atgtgtgtgg agacaccata ataaaactcc ttttttgttt gctaactaaa accactaaaa 10500  
tctaaaaaca aaacattttt gcacaagaat tattttattat tcaataaaga tggtttaatg 10560  
ggggaagtgg aagttcattg atagtctcat aaatcttaaa tgtatttaaa ctgcttttta 10620  
cgttttttat tattaattac tcttgctgtc attattatca tcatcattat cgtcatcatc 10680  
atcactaatg cttttcacca tacacaaatg taggcagaag agtgtaatcc acttagtgag 10740  
gcaatcttgg agaggggaaag gaagcggatg cggggcagag gcacacagga ggacagttag 10800  
agggaaatga acaagaaaaa atgtggacac atgcacaaaa attccatagt ccactacatt 10860  
actttgtatt ctaatatata gaaaataata aaccatttcc tgtgcactta tcaccaggc 10920  
tcaacagtta tcttgccac agatcctgtc tctactgcat ctgtccacct gactccactt 10980  
agcgttctga atccaatcca gggcatgatg cttactccta cacagaacta aagattaaag 11040  
agagtttaaa agtaaccatg acatctctct gtctcttttag cgataagttc ttaatattta 11100  
tggtgcttg tgtatgttct aatttctcta atattgtcac atttagttgg caactacttt 11160  
gtttgaattg agttggagtt aaggtcccat aggattaatc tcaacatatt tctatattta 11220  
taaacttttc tctctttgtg aaagtccctt tgagaaaaca aatatgccca tatctttctt 11280  
tacaggctct aaaaatgagc tataacaaag tccaaataat tgagaaggat actttgtatg 11340  
gactcaggag cttgaccggg ttgcacctgg atcacaacaa cattgagttt atcaaccccg 11400  
aggcggttta cggactcacc ttgctccgct tggtacatct agaaggaaac cggtgacaa 11460  
agctccatcc agacacattt gtctctttga gctatctcca gatatttaaa acctccttca 11520  
ttaagnacct gtacttgat gataacttca ttgacctccc tcccaaaaga aatggtctcc 11580

tctatgccaa acctagaaag cctttacttg catggaaacc catggacctg tgactgccat 11640  
 ttaaagtggg tgtccgagtg gatgcaggga aaccaggga actatcttgt ttgtttgttt 11700  
 ctttttttat arkacgtatt ttcctcaatt tcatttagaa tgatatccca aaagtcccc 11760  
 ataacctccc ccccaacttc ctacctacc attcccattt tttggccctg gcattcccct 11820  
 gtactggggc atataaagt tgcgtgtcca atggacctct ctttccagt atggccaact 11880  
 aggccatctt ttgatacata tgcagctaga gtcaagagct ctgggggtact ggtagttca 11940  
 taatgttggt gcacctacag ggttgaa 11967

<210> 4

<211> 2404

<212> DNA

<213> homo sapiens

<400> 4

tgggcagctg gatccacgtc taccctaatt gatccctgtt tattggatca gtaacagaaa 60  
 aagacagtgg tgtctacttg tgtgtggcaa gaaacaaaat gggggatgat ctgatactga 120  
 tgcattgttag cctaagactg aaacctgccaa aaattgacca caagcagtat ttagaaaagc 180  
 aagtgtctcca tgggaaagat ttccaagtag attgcaaagc ttccggctcc ccagtgccag 240  
 agatatcttg gagtttgcct gatggaacca tgatcaacaa tgcaatgcaa gccgatgaca 300  
 gtggccacag gactaggaga tatacccttt tcaacaatgg aactttatac ttcaacaag 360  
 ttggggtagc ggaggaagga gattatactt gctatgcccc gaacacccta gggaaagatg 420  
 aaatgaaggt ccacttaaca gttataacag ctgctccccg gataaggcag agtaacaaaa 480  
 ccaacaagag aatcaaagct ggagacacag ctgtccttga ctgtgaggtc actggggatc 540  
 ccaaaccaaa aatatttttg ttgctgcctt ccaatgacat gatttccttc tccattgata 600  
 ggtacacatt tcatgccaat gggctcttga ccatcaacaa agtgaaaactg ctcgattctg 660  
 gagagtacgt atgtgtagcc cgaaatccca gtggggatga caccaaaatg taaaaactgg 720  
 atgtggtctc taaacctcca ttaatcaatg gtctgtatac aaacagaact gttattaaag 780  
 ccacagctgt gagacattcc aaaaaaact ttgactgcag agctgaaggg acaccatctc 840  
 ctgaagtcac gtggatcatg ccagacaata ttttcctcac agccccatac tatggaagca 900  
 gaatcacagt ccataaaaaat ggaaccttgg aaattaggaa tgtgaggctt tcagattcag 960  
 ccgactttat ctgtgtggcc cgaaatgaag gtggagagag cgtgttggtg gtacagttag 1020  
 aagtactgga aatgctgaga agaccgacat ttagaaatcc atttaatgaa aaaatagttg 1080

```

cccagctggg aaagtccaca gcattgaatt gctctgttga tggtaacca ccacctgaaa 1140
taatctggat ttaccaaagt ggcacacgat tttccaatgg accacaaagt tatcagtatc 1200
tgatagcaag caatggttct tttatcattt ctaaaacaac tcgggaggat gcaggaaaat 1260
atcgctgtgc agctaggaat aaagttggct atattgagaa attagtcata ttagaaattg 1320
gccagaagcc agttattctt acctatgcac caggacagc aaaaggcatc agtggagaat 1380
ctctatcact gcattgtgtg tctgatggaa tccctaagcc aaatatcaaa tggactatgc 1440
caagtggta ttagtagac aggcctcaaa ttaatgggaa atacatattg catgacaatg 1500
gcaccttagt cattaaagaa gcaacagctt atgacagagg aaactatata tgtaaggctc 1560
aaaatagtgt tggcatata ctgattactg ttccagtaat gattgtagcc taccctcccc 1620
gaattacaaa tcgtccaccc aggagtattg tcaccaggac aggggcagcc tttcagctcc 1680
actgtgtggc cttgggagtt cccaagccag aaatcacatg ggagatgcct gaccactccc 1740
ttctctcaac ggcaagtaaa gagaggacac atggaagtga gcagcttcac ttacaaggta 1800
ccctagtcac tcagaatccc caaacctccg attctgggat atacaaatgc acagcaaaga 1860
accacttgg tagtgattat gcagcaacgt atattcaagt aatctgacat gaaataataa 1920
agtcaacaac atctgggcag aatttatttt ttggaagaag tttaatcaaa ggcagccata 1980
ggcatgtaaa tgaatttgaa tacatttaca gtattaaatt tacaatgaac atgcaaaata 2040
aaaggacttg taaataaatg cattatgaac tgatgataag tctctgtgga tctcaaagca 2100
aactcttaac ttaaggcact ttgctgattt atttaatgga tctcaaaaca aacttttaac 2160
ttaaggcact tttattttgc caacaaataa caataaaca acattgaaac gggttcactat 2220
aaaataaaca atggctaatt tacctgaatt tttcagtaaa aaaatgaact tctaatacca 2280
gttgccctagt gtccacctcc tatcaatggtt acaagcatgg cactcagaac agagacaatg 2340
gaaaatatta aatctgcaat ctttatgatg taaatttacc atcctgatgt ataaatattt 2400
tgtg 2404

```

```

<210> 5
<211> 8883
<212> DNA
<213> Rattus species

<220>
<221> misc_feature
<222> (1)..(8916)
<223> n can be any amino acid

```



<400> 5  
 cgagagacga cagaaggtta cggctgagag aagacgacag aaggggtccag aaaaaggaaa 60  
 gtgctggagg ggagtgggga caaaagcagc gaccaagtga atgtcacttc agtgactgag 120  
 gccaggcaaa acgcgcggga aggattttgt gtagcttggg accctttcat agacactgat 180  
 gacacgttta cgcaaaatag aaatttgagg agaaacgcct gggccttcgg aaaggagtga 240  
 ttgattagta cttgcaagtt taggtgactt taaggagaac taactaatgt atactattga 300  
 gggaggagga agagcattac agagtttcca gcagcagcag gaaagctttg gttaatttgg 360  
 aaatggatga tagcattaaa ataacagaag cgcctccagg tctctgaagc ttcagtcccc 420  
 cagctgaaag ccagaaaaga ctaagcccac taagcctttt gatccctttg gaagcaaaga 480  
 actttccttc cctgggggtga agactctcct cagaagattt cctgtctctg cctatgttac 540  
 aagaggaatc aaaaccaaga cagaagagct caggatgcag gtgagaggca ggaagtcag 600  
 cggcttgttg atctccctca ctgctgtctg cctggtggtc accctggga gcagggcctg 660  
 tcctcgccgc tgtgcctgct atgtgcccac agaggtgcac tgtacatttc ggtacctgac 720  
 ctccatccca gatggcatcc cggccaatgt ggaacgaata aatttaggat ataacagcct 780  
 tactagattg acagaaaacg actttgatgg cctgagcaaa ctggagttac tcatgctgca 840  
 cagtaatggc attcacagag tcagtgacaa gaccttctcg ggcttgaggt ccttgaggt 900  
 cttaaaaaatg agctataaca aagtccaaat cattcggaag gatactttct acggactcgg 960  
 gagcttggtc cggttgcacc tggatcacia caacattgaa ttcattcaacc ctgaggcctt 1020  
 ttatggactt acctcgctcc gcttgggtaca tttagaagga aaccgggtca caaagctcca 1080  
 tccagacaca tttgtctcat taagctatct ccagatatct aaaacctctt tcattaagta 1140  
 cctgttcttg tctgataact tcctgacctc cctcccaaaa gaaatgggtct cctacatgcc 1200  
 aaacctagaa agcctgtatt tgcattggaaa cccatggacc tgtgactgcc atttaaagt 1260  
 gttgtctgag tggatgcagg gaaaccaga tataataaaa tgcaagaaag acagaagctc 1320  
 ttccagtcct cagcaatgtc ccctttgcat gaaccccagg atctctaaag gcagaccctt 1380  
 tgctatggta ccatctggag ctttccctatg tacaaagcca accattgatc catcactgaa 1440  
 gtcaaagagc ctgggttactc aggaggacaa tggatctgcc tccacctcac ctcaagattt 1500  
 catagaaccc tttggctcct tgtctttgaa catgacanan ntntctggaa ataaggccga 1560  
 catggctctgt agtatccaaa agccatcaag gacatcacca actgcattca ctgaagaaaa 1620  
 tgactacatc atgctaaatg cgtcattttc cacaatatct gtgtgcagtg tagattataa 1680

tcacatccag ccagtgtggc aacttctggc tttatacagt gactctcctc tgatactaga	1740
aaggaagccc cagcttaccg agactccttc actgtcttct agatataaac aggtggctct	1800
taggcctgaa gacattttta ccagcataga ggctgatgtc agagcagacc ctttttggtt	1860
ccaacaagaa aaaattgtct tgcagctgaa cagaactgcc accacactta gcacattaca	1920
gatccagttt tccactgatg ctcaaatcgc tttaccaagg gcggagatga gagcggagag	1980
actcaaatgg accatgatcc tgatgatgaa caatcccaaa ctggaacgca ctgtcctggt	2040
tggcggcact attgccctga gctgtccagg caaaggcgac ccttcacctc acttggaatg	2100
gcttctagct gatgggagta aagtgagagc cccttacgtt agcgaggatg ggccaatcct	2160
aatagacaaa aatgggaagt tggaactgca gatggctgac agctttgatg caggtcttta	2220
ccactgcata agcaccaatg atgcagatgc ggatgttctc acatacagga taactgtggt	2280
agagccctat ggagaaagca cacatgacag tggagtccag cacacagtgg ttacgggtga	2340
gacgctcgac cttccatgcc tttccacggg tgttccagat gcttctatta gctggattct	2400
tccaggaac actgtgttct ctcagccatc aagagacagg caaattctta acaatgggac	2460
cttaagaata ttacaggtta cgccaaaaga tcaaggatcat taccaatgtg tggctgccaa	2520
cccatcaggg gccgactttt ccagttttaa agtttcagtt caaaagaaag gccaaaggat	2580
ggttgagcat gacagggagg caggtggatc tggacttggga gaaccaact ccagtgttct	2640
ccttaagcag ccagcatctt tgaaactctc tgcacagct ttgacagggt cagaggctgg	2700
aaaacaagtc tccggtgtac ataggaagaa caaacataga gacttaatac atcggcggcg	2760
tggggattcc acgctccggc gattcaggga gcataggagg cagctccctc tctctgctcg	2820
gagaattgac ccgcaacgct gggcagcact tctagaaaaa gccaaaaaga attctgtgcc	2880
aaaaaagcaa gaaaatacca cagtaaagcc agtgccactg gctgttcccc tcgtggaact	2940
cactgacgag gaaaaggatg cctctggcat gattcctcca gatgaagaat tcatggttct	3000
gaaaactaag gcttctggtg tcccaggaag gtcaccaact gctgactctg gaccagtaaa	3060
tcatggtttt atgacgagta tagcttctgg cacagaagtc tcaactgtga atccacaaac	3120
actacaatct gagcaccttc ctgatttcaa attatttagt gtaacaaacg gtacagctgt	3180
gacaaagagt atgaacccat ccatagcaag caaaatagaa gatacaacca accaaaaccc	3240
aatcattatc tttccatcag tagctgaaat tcgagattct gctcaggcag gaagagcatc	3300
ttcccaaagt gcacaccctg taacaggggg aaacatggct acctatggcc ataccaacac	3360

atatagtagc	tttaccagca	aagccagtag	agtcttgcag	ccaataaatc	caacagaaag	3420	
ttatggacct	cagataccta	ttacaggagt	cagcagacct	agcagtagtg	acatctcttc	3480	
tcacactact	gcagacccta	gcttctccag	tcacccttca	ggttcacaca	ccactgcctc	3540	
gtctttat	ttt	cacattccta	gaaacaacaa	tacaggtaac	ttccccctgt	ccaggcactt	3600
gggaagagag	aggacaat	ttt	ggagcagagg	gagagttaaa	aaccacata	gaaccccagt	3660
tctccgacgg	catagacaca	ggactgtgag	gccagcaatc	aagggaacctg	ctaacaaaaa	3720	
tgtgagccaa	gttccagcca	cagagtaccc	tgggatgtgc	cacacatgtc	cttccgcaga	3780	
ggggctcaca	gtggctactg	cagcactgtc	agttccaagt	tcatcccaca	gtgccctccc	3840	
caaaactaat	aatgttgggg	tcatagcaga	agagtctacc	actgtgggtca	agaaaccact	3900	
gttactat	ttt	aaggacaaac	aaaatgtaga	tattgagata	ataacaacca	ctacaaaata	3960
ttccggaggg	gaaagtaacc	acgtgattcc	tacggaagca	agcatgactt	ctgctccaac	4020	
atctgtatcc	ctggggaaat	ctcctgtaga	caatagtggg	cacctgagca	tgcttgggac	4080	
catccaaact	gggaaagatt	cagtggaaac	aacaccactt	cccagcccc	tcagcacacc	4140	
ctcaatacca	acaagcaca	aaattctcaa	gaggaaaact	cccttgacc	agatctttgt	4200	
aaataaccag	aagaaggagg	ggatgttaaa	gaatccatat	caattcgggt	tacaaaagaa	4260	
cccagccgca	aagcttcca	aaatagctcc	tcttttacc	acaggtcaga	gttccccctc	4320	
agattctaca	actctcttga	caagtccgcc	accagctctg	tctacaacaa	tggtctgccac	4380	
tcagaacaag	ggcactgaag	tagtatcagg	tgccagaagt	ctctcagcag	ggaagaagca	4440	
gcccttcacc	aactcctctc	cagtgttcc	tagcaccata	agcaagagat	ctaatacatt	4500	
aaacttcttg	tcaacggaaa	ccccacagt	gacaagtctt	actgtctactg	catctgtcat	4560	
tatgtctgaa	acccaacgaa	caagatccaa	agaagcaaaa	gaccaaataa	aggggcctcg	4620	
gaagaacaga	aacaacgcaa	acaccacccc	caggcaggtt	tctggctata	gtgcatactc	4680	
agctctaaca	acagctgata	cccccttggc	tttcagtcac	tccccacgac	aagatgatgg	4740	
tggaaatgta	agtgcagttg	cttatcactc	aacaacctct	cttctggcca	taactgaact	4800	
gtttgagaag	tacaccacaga	ctttgggaaa	tacaacagct	ttggaaacaa	cgttgttgag	4860	
caaatcacag	gagagtacca	cagtgaagag	agcctcagac	acaccaccac	cactcctcag	4920	
cagtggggcg	ccccagtg	c	cactccttc	cccacctcct	tttactaagg	gtgtgggttac	4980
agacagcaaa	gtcacatcag	ctttccagat	gacgtcaaat	agagtgggtca	ccatatatga	5040	
atcttcaagg	cacaatacag	atctgcagca	accctcagca	gaggctagcc	ccaatcctga	5100	

gatcataact ggaaccactg actctccctc taatctgttt ccatccactt ctgtgccagc	5160
actaagggtg gataaaccac agaattctaa atggaagccc tctccctggc cagaacacaa	5220
atatcagctc aagtcatact ccgaaacccat tgagaagggc aaaaggccag cagtaagcat	5280
gtccccccac ctcagccttc cagaggccag cactcatgcc tcacactgga atacacagaa	5340
gcatgcagaa aagagtgttt ttgataagaa acctgggtcaa aaccaactt ccaaacatct	5400
gccttacgtc tctctaccta agactctatt gaaaaagcca agaataattg gaggaaggc	5460
tgcaagcttt acagttccag ctaattcaga cgtttttctt ccttgtgagg ctgttgagaa	5520
cccactgccc atcatccact ggaccagagt ttcacagga nttgaaatat cccaaggac	5580
acagaaaagc cggttccacg tgcttcccaa tggcaccttg tccatccaga gggtcagtat	5640
tcaggaccgt ggacagtacc tgtgctctgc atttaatcca ctgggcgtag accattttca	5700
tgtctctttg tctgtggttt tttaccggc aaggattttg gacagacatg tcaaggagat	5760
cacagttcac tttggaagta ctgtggaact aaagtgcaga gtggagggtg tgccgaggcc	5820
tacggtttcc tggatacttg caaaccaaac ggtgggtctca gaaacggcca agggaagcag	5880
aaaggctctg gtaacacctg atggaacatt gatcatctat aatctgagtc tttatgatcg	5940
tggtttttac aagtgtgtgg ccagcaacct atctggccag gattcactgt tggttaagat	6000
acaagtcac acagctcccc ctgtcattat agagcaaaag aggcaagcca tcgttggggt	6060
tttaggtgga agtttgaaac tgccctgcac tgcaaaagga actccccagc ctagtgttca	6120
ctgggtcctt tatgatggga ctgaactaaa accattgcag ttgactcatt ccagattttt	6180
cttgatcca aatggaactc tgtatataag aagcatcgct ccttcagtga ggggcactta	6240
tgagtgcatt gccaccagct cctcaggctc agagagaagg gtagtgattc ttactgtgga	6300
agagggagag acaatcccca ggatagaaac tgcctctcag aaatggactg aggtgaattt	6360
gggtgagaaa ttactactga actgctcagc tactggggat ccaaagccta gaataatctg	6420
gaggctgcca tccaaggctg tcatcgacca gtggcacaga atgggcagcc gaatccacgt	6480
ctacccaaat ggatccttgg tggttgggtc agtgacggaa aaagacgctg gtgactactt	6540
atgtgtggca agaaacaaaa tgggagatga cctagtcctg atgcatgtcc gcctgagatt	6600
gacacctgcc aaaattgaac agaagcagta ttttaagaag caagtgtctc atgggaaaga	6660
tttccaagtt gactgcaagg cctctggctc ccctgtgcct gaggtatcct ggagtttgcc	6720
tgatgggaca gtgctcaaca atgtagcca agctgatgac agtggctata ggaccaagag	6780

gtacaccctt	ttccacaatg	gaaccttgta	tttcaacaac	gttgggatgg	cagaggaagg	6840
agattatatc	tgctctgccc	agaacacctt	agggaaagat	gagatgaaag	tccacctaac	6900
agttctaaca	gccatcccac	ggataaggca	aagctacaag	accaccatga	ggctcagggc	6960
tggagaaaca	gctgtccttg	actgcgaggt	cactggggaa	cgaagccca	atgtattttg	7020
gttgctgcct	tccaacaatg	tcatttcatt	ctccaatgac	aggttcacat	ttcatgccaa	7080
tagaactttg	tccatccata	aagtgaaacc	acttgactct	ggggactatg	tgtgcgtagc	7140
tcagaatcct	agtggggatg	acactaagac	atacaaactg	gacattgtct	ctaaacctcc	7200
attaatcaat	ggcctgtatg	caaacaagac	tgttattaaa	gccacagcca	ttcggcactc	7260
caaaaaatac	tttgactgca	gagcagatgg	gatcccatct	tcccagggtca	cgtggattat	7320
gccagggaat	attttcctcc	cagctccata	ctttggaagc	agagtcacgg	tccatccaaa	7380
tggaaccttg	gagatgagga	acatccggct	ttctgactct	gcggaacttca	cctgtgtgggt	7440
tcggagcgag	ggaggagaga	gtgtgttgggt	agtgcagtta	gaagtcctag	aatgtctgag	7500
aagaccaaca	ttcagaaacc	cattcaacga	aaaagtcatc	gccaagctg	gcaagcccgt	7560
agcactgaac	tgctctgtgg	atgggaaccc	cccacctgaa	attacctgga	tcttacctga	7620
cggcacacag	tttgctaaca	gaccacacaa	ttccccgtat	ctgatggcag	gcaatggctc	7680
tctcatcctt	tacaaagcaa	ctcggaacaa	gtcagggaa	tatcgctgtg	cagccaggaa	7740
taaggttggc	tacatcgaga	aactcatcct	gttagagatt	gggcagaagc	cagtcattct	7800
gacatacgaa	ccagggatgg	tgaagagcgt	cagtggggaa	cgttatcac	tgcatgtgtg	7860
gtctgatggg	atccccaaagc	caaagtgtcaa	gtggactaca	ccgggtggcc	atgtaatcga	7920
caggcctcaa	gtggatggaa	aatacatact	gcatgaaaat	ggcacgctgg	tcatcaaagc	7980
aacaacagct	cacgaccaag	gaaattatat	ctgtagggct	caaaacagtg	ttggccaggc	8040
agttattagc	gtgtcagtga	tggttgtggc	ctaccctccc	cgaatcataa	actacctacc	8100
caggaacatg	ctcaggagga	caggggaagc	catgcagctc	cactgtgtgg	ccttgggaat	8160
ccccaaagcca	aaagtcacct	gggagacgcc	aagacactcc	ctgctctcaa	aagcaacagc	8220
aagaaaaccc	catagaagtg	agatgcttca	cccacaagg	acgctggtca	ttcagaatct	8280
ccaaacctcg	gattccggag	tctataagt	cagagctcag	aacctacttg	ggactgatta	8340
cgcaacaact	tacatccagg	tactctgaca	ggaaggggga	gactaaaatt	caacagaagt	8400
ccacatccac	agggtttatt	ttttggaaga	agtttaatca	aaggcagcca	taggcatgta	8460
aatgagtctg	aatacattta	cagtattaaa	tttacaatgg	acatgcgatg	agacttgtaa	8520

atgaaagcat tgtgaactga aaccgagtct ctgtggatct caaagcaaac tcttaactta	8580
aggcactttg attttgccaa caaataataa caaacattaa gagaaaaaaaa tgatccacta	8640
cgaaataaca aacggctaata gcacctgaat tctcagtaaa aagacctttc tctcgctaac	8700
agttgccagc tgcctcgtgt ctgtttccta ccaatgtcac aaacatcgca cacaggggtga	8760
atggagtcaa cgggaaagat taagtttgcg gtctgtgtaa atctcaatgt acaaatatct	8820
tgctnctggg ttataaacat tttgataaaa ccgaaaaaaaa aaaaaaaaaa aaaaaaaaaa	8880
aaa	8883

```

<210> 6
<211> 8262
<212> DNA
<213> homo sapiens

<220>
<221> misc_feature
<222> (1)..(8262)
<223> 'n' can be any nucleotide 'a', 'c', 'g' or 't'.

```

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400

<400> 6	
atgaaggtaa aaggcagagg aatcacctgc ttgctggctc cctttgctgt gatctgcctg	60
gtcgccaccc ctgggggcaa ggccctgtcct cgccgctgtg cctgttatat gcctacggag	120
gtacactgca catttcggta cctgacttcc atcccagaca gcatcccgcc caatgtggaa	180
cgcatacaatt taggatacaa cagcttggtt agattgatgg aaacagattt ttctggcctg	240
accaaactgg agttactcat gcttcacagc aatggcattc acacaatccc tgacaagacc	300
ttctcagatt tgcaggcctt gcaggtctta aaaatgagct ataataaagt ccgaaaactt	360
cagaaagata ctttttatgg cctcaggagc ttgacacgat tgcacatgga ccacaacaat	420
attgagttta taaaccaga ggttttttat gggctcaact ttctccgcct ggtgcacttg	480
gaaggaaatc agctcactaa gctccacca gatacatttg tctctttgag ctacctccag	540
atatttaaaa tctctttcat taagttccta tacttgtctg ataacttcct gacctccctc	600
cctcaagaga tggctctcta tatgcctgac ctagacagcc ttacactgca tggaaacca	660
tggacctgtg attgccattt aaagtgggtg totgactgga tacaggnnnn nccagatgta	720
ataaaatgca aaaaagatag aagtcctct agtgctcagc agtgtccact ttgcatgaac	780
cctaggactt ctaaaggcaa gccgttagct atgggtctcag ctgcagcttt ccagtgtgcc	840
aagccaacca ttgactcatc cctgaaatca aagagcctga ctattctgga agacagtagt	900

tctgctttca tctctcccca aggtttcatg gcaccctttg gctccctcac tttgaatatg	960
acagatcagt ctggaaatga agctaacatg gtctgcagta ttcaaaagcc ctcaaggaca	1020
tcacccattg cattcactga agaaaatgac tacatcgtgc taaatacttc attttcaaca	1080
tttttggtgt gcaacataga ttacggtcac attcagccag tgtggcaaatt tttggctttg	1140
tacagtgatt ctctctgat actagaaagg agccacttgc ttagtgaaac accgcagctc	1200
tattacaaat ataaacaggt ggctcctaag cctgaagaca tttttacca catagaggca	1260
gatctcagag cagatccctc ttggttaatg caagaccaa tttccttgca gctgaacaga	1320
actgccacca cattcagtac attacagatc cagtactcca gtgatgctca aatcacttta	1380
ccaagagcag agatgaggcc agtgaaacac aaatggacta tgatttcaag ggataacaat	1440
actaagctgg aacatactgt cttggtaggt ggaaccgttg gcctgaactg cccaggccaa	1500
ggagacccca cccacacagt ggattggctt ctagctgatg gaagtaaagt gagagccctt	1560
tatgtcagtg aggatggacg gatcctaata gacaaaagt gaaaattgga actccagatg	1620
gctgatagtt ttgacacagg cgtatatcac tgtataagca gcaattatga tgatgcagat	1680
attctcacct ataggataac tgtggtagaa ctttggctg aagcctatca ggaaaatggg	1740
attcatcaca cagttttcat tggtgaaaca cttgatcttc catgccattc tactggatc	1800
ccagatgcct ctattagctg ggttattcca ggaaacaatg tgctctatca gtcacaaaga	1860
gacaagaaag ttctaataaa tggcacatta agaataattac aggtcacccc gaaagaccaa	1920
ggttattatc gctgtgtggc agccaaccca tcagggggtg attttttgat tttccaagtt	1980
tcagtcaaga tgaaaggaca aaggcccttg gagcatgatg gagaaacaga gggatctgga	2040
cttgatgagt ccaatcctat tgctcatctt aaggagccac caggtgcaca actccgtaca	2100
tctgctctga tggaggctga gggttgaaaa cacacctcaa gcacaagtaa gaggcacaac	2160
tatcggggaat taacactcca gcgacgtgga gattcaacac atcgacgttt tagggagaat	2220
aggaggcatt tccctccctc tgctaggaga attgaccac aacattgggc ggactgttg	2280
gagaaagcta aaaagaatgc tatgccagac aagcgagaaa ataccacagt gagcccacc	2340
ccagtggtea cccaactccc aaacatacct ggtgaagaag acgattcctc aggcagctc	2400
gctctacatg aggaatttat ggtcccgcc actaaagctt tgaaccttcc agcaaggaca	2460
gtgactgctg actccagaac aatatctgat agtcctatga caaacataaa ttatggcaca	2520
gaactctccg ttgtgaattc acaaatacta ccacctgaag aaccacaga tttcaaactg	2580





actaggaaag catcattaga cactcaacca ccaccattct tgagcagcag tgctactcta 4380  
atgccagttc ccatctcccc tccctttact cagagagcag ttactgacaa cgtggcgact 4440  
cccatttccg ggcttatgac aaatacagtg gtcaagctgc acgaatcctc aaggcacaat 4500  
ccnnnnnnnc aaatgccaaag ttcacnnaat tgngaaccnn nnaactnnnn nacttcatct 4560  
acntctaate tggtacattc tactcccatg ccagcactaa caacagttaa atcacagaat 4620  
tccaaattaa ctccatctcc ctgggcagaa taccaatttt ggcacaaacc atactcagac 4680  
attgctgaaa aaggcaaaaa gccagaagta agcatgttggt ctactacagg cctgtccgag 4740  
gccaccactc ttgtttcaga ttgggatgga cagaagaaca caaagaagag tgactttgat 4800  
aagaaaccag ttcaagaagc aacaacttcc aaactccttc cctttgactc tttgtctagg 4860  
tatatatattg aaaagcccag gatagttgga ggaaaagctg caagttttac tattccagct 4920  
aactcagatg cctttcttcc ctgtgaagct gttggaaatc ccctgcccac cattcattgg 4980  
accagagtnn nntcaggact tgatttatct aagaggaaac agaatagcag ggtccagggt 5040  
ctccccaatg gtaccctgtc catccagagg gtggaaattc aggaccgcgg acagtacttg 5100  
tgttccgcat ccaatctggt tggcacagac caccttcatg tcacctgtc tgtggtttcc 5160  
tatcctccca ggatcctgga gagacgtacc aaagagatca cagttcattc cggaagcact 5220  
gtggaactga agtgcagagc agaaggtagg ccaagcccta cagttacctg gattcttgca 5280  
aaccaaacag ttgtctcaga atcatcccag ggaagtaggc aggctgtggt gacggttgac 5340  
ggaacattgg tcctccacaa tctcagtatt tatgaccgtg gcttttacia atgtgtggcc 5400  
agcaaccag gtggccagga ttactgctg gttaaaatac aagtcattgc agcaccacct 5460  
gttattctag agcaaaggag gcaagtcatt gtaggcactt ggggtgaaag tttaaaactg 5520  
ccctgtactg caaaaggaac tcctcagccc agcgtttact gggtcctctc tgatggcact 5580  
gaagtgaac cattacagtt taccaattcc aagttgttct tattttcaaa tgggactttg 5640  
tatataagaa acctagcctc ttcagacagg ggcacttatg aatgcattgc taccagttcc 5700  
actggttcgg agcgaagagt agtaatgctt acaatggaag agcgagtgc cagccccagg 5760  
atagaagctg catcccagaa aaggactgaa gtgaattttg gggacaaatt actactgaac 5820  
tgctcagcca ctggggagcc caaaccccaa ataatgtgga gggtaccatc caaggctgtg 5880  
gtcgaccagt gggcagctgg atccacgtct accctaattg atccctgttt attggatcag 5940  
taacagaaaa agacagtgggt gtctacttgt gtgtggcaag aaacaaaatg ggggatgatc 6000

tgatactgat gcatgttagc ctaagactga aacctgccaa aattgaccac aagcagtatt 6060  
 ttagaaagca agtgctccat gggaaagatt tccaagtaga ttgcaaagct tccggctccc 6120  
 cagtgccaga gatatcttgg agtttgctg atggaaccat gatcaacaat gcaatgcaag 6180  
 cccgatgacag tggccacagg actaggagat ataccctttt caacaatgga actttatact 6240  
 tcaacaaagt tggggtagcg gaggaaggag attatacttg ctatgccag aacaccctag 6300  
 ggaaagatga aatgaaggtc cacttaacag ttataacagc tgctccccgg ataaggcaga 6360  
 gtaacaaaac caacaagaga atcaaagctg gagacacagc tgccttgac tgtgaggcca 6420  
 ctgggggatcc caaaccaaaa atattttggt tgctgccttc caatgacatg atttccttct 6480  
 ccattgatag gtacacattt catgccaatg ggtctttgac catcaacaaa gtgaaactgc 6540  
 tcgattctgg agagtacgta tgtgtagccc gaaatcccag tggggatgac accaaaatgt 6600  
 acaaaactgga tgtgggtctct aaacctccat taatcaatgg tctgtataca aacagaactg 6660  
 ttattaaagc cacagctgtg agacattcca aaaaacactt tgactgcaga gctgaagggg 6720  
 caccatctcc tgaagtcatg tggatcatgc cagacaatat tttcctcaca gcccatact 6780  
 atggaagcag aatcacagtc cataaaaatg gaaccttggg aattaggaat gtgaggcttt 6840  
 cagattcagc cgactttatc tgtgtggccc gaaatgaagg tggagagagc gtgttggttag 6900  
 tacagttaga agtactggaa atgctgagaa gaccgacatt tagaaatcca tttaatgaaa 6960  
 aaatagttgc ccagctggga aagtccacag cattgaattg ctctgttgat ggtaaccac 7020  
 cacctgaaat aatctggatt ttaccaaagc gcacacgatt ttccaatgga ccacaaagtt 7080  
 atcagtatct gatagcaagc aatgggttctt ttatcatttc taaaacaact cgggaggatg 7140  
 caggaaaata tcgctgtgca gctaggaata aagttggcta tattgagaaa ttagtcatat 7200  
 tagaaattgg ccagaagcca gttattctta cctatgcacc agggacagta aaaggcatca 7260  
 gtggagaatc tctatcactg cattgtgtgt ctgatggaat ccctaagcca aatatcaaat 7320  
 ggactatgcc aagtggttat gtagtagaca ggcctcaaat taatgggaaa tacatattgc 7380  
 atgacaatgg cacccttagtc attaaagaag caacagctta tgacagagga aactatatct 7440  
 gtaaggctca aaatagtggt ggtcatacac tgattactgt tccagtaatg attgtagcct 7500  
 accctccccg aattacaaat cgtccaccca ggagtattgt caccaggaca ggggcagcct 7560  
 ttcagctcca ctgtgtggcc ttgggagttc ccaagccaga aatcacatgg gagatgcctg 7620  
 accactccct tctctcaacg gcaagtaaag agaggacaca tggaagtgag cagcttcaact 7680  
 tacaaggtag cctagtcatt cagaatcccc aaacctccga ttctgggata tacaatgca 7740

cagcaaagaa cccacttggg agtgattatg cagcaacgta tattcaagta atctgacatg 7800  
aaataataaa gtcaacaaca tctgggcaga atttatTTTT tggaagaagt ttaatcaaag 7860  
gcagccatag gcatgtaaat gaatttgaat acatttacag tattaaattt acaatgaaca 7920  
tgcaaaataa aaggacttgt aaataaatgc attatgaact gatgatactg atttatttaa 7980  
tggatctcaa aacaaacttt taacttaagg cacttttatt ttgccaacaa ataacaataa 8040  
acaaacattg aaacggttca ctataaaata acaaattggct aatgtacctg aatttttcag 8100  
taaaaaaatg aacttctaata accagttgcc tagtgtccac ctcctatcaa tggtacaagc 8160  
atggcactca gaacagagac aatggaaaat attaaatctg caatctatgt ataaatattt 8220  
tgtggtttat aaattttttt gctaaaacct acagaaaata ag 8262

<210> 7  
<211> 8883  
<212> DNA  
<213> Rattus species  
<220>  
<221> misc\_feature  
<222> (1)..(8916)  
<223> 'n' can be any nucleotide 'a', 'c', 'g' or 't'.

<400> 7  
cgagagacga cagaaggtta cggctgagag aagacgacag aagggtccag aaaaaggaaa 60  
gtgctggagg ggagtgggga caaaagcagc gaccaagtga atgtcacttc agtgactgag 120  
gccaggcaaaa acgcgcggga aggattttgt gtagcttggg accctttcat agacactgat 180  
gacacgttta cgcaaaatag aaatttgagg agaaacgcct gggccttcgg aaaggagtga 240  
ttgattagta cttgcaagtt taggtgactt taaggagaac taactaatgt atactattga 300  
gggaggagga agagcattac agagtttcca gcagcagcag gaaagctttg gttaatttgg 360  
aaatggatga tagcattaaa ataacagaag cgctccagg tctctgaagc ttcagtcccc 420  
cagctgaaag ccagaaaaga ctaagccac taagcctttt gatccctttg gaagcaaaga 480  
actttccttc cctgggggtga agactctcct cagaagattt cctgtctctg cctatgttac 540  
aagaggaatc aaaaccaaga cagaagagct caggatgcag gtgagaggca gggaagtcag 600  
cggcttggtg atctccctca ctgctgtctg cctgggtggtc acccctggga gcagggcctg 660  
tcctcgccgc tgtgcctgct atgtgccac agaggtgcac tgtacatttc ggtacctgac 720  
ctccatccca gatggcatcc cggccaatgt ggaacgaata aatttaggat ataacagcct 780

1000  
 900  
 800  
 700  
 600  
 500  
 400  
 300  
 200  
 100  
 0

tactagattg acagaaaacg actttgatgg cctgagcaaa ctggagttac tcatgctgca	840
cagtaatggc attcacagag tcagtgacaa gaccttctcg ggcttgcaagt ccttgcaggt	900
cttaaaaatg agctataaca aagtccaaat cattcggaag gatactttct acggactcgg	960
gagcttggtc cggttgcacc tggatcacaa caacattgaa ttcatacaacc ctgaggcctt	1020
ttatggactt acctcgctcc gcttgggtaca tttagaagga aaccggctca caaagctcca	1080
tccagacaca tttgtctcat taagctatct ccagatatct aaaacctctt tcattaagta	1140
cctgttcttg tctgataact tcttgacctc cctcccaaaa gaaatgggtct cctacatgcc	1200
aaacctagaa agcctgtatt tgcattggaaa cccatggacc tgtgactgcc atttaaagtg	1260
gttgtctgag tggatgcagg gaaaccacga tataataaaa tgcaagaaag acagaagctc	1320
ttccagtcct cagcaatgtc ccctttgcat gaacccacag atctctaaag gcagaccctt	1380
tgtatggta ccattctggag ctttcctatg tacaaagcca accattgatc catcactgaa	1440
gtcaaagagc ctgggttactc aggaggacaa tggatctgcc tccacctcac ctcaagattt	1500
catagaacct tttggctcct tgtctttgaa catgacanan ntntctggaa ataaggccga	1560
catgggtctgt agtatccaaa agccatcaag gacatcacca actgcattca ctgaagaaaa	1620
tgactacatc atgctaaatg cgtcattttc cacaaatctt gtgtgcagtg tagattataa	1680
tcacatccag ccagtgtggc aacttctggc tttatacagt gactctctc tgatactaga	1740
aaggaagccc cagcttaccg agactccttc actgtcttct agatataaac aggtggctct	1800
taggcctgaa gacattttta ccagcataga ggctgatgtc agagcagacc ctttttggtt	1860
ccaacaagaa aaaattgtct tgcagctgaa cagaactgcc accacactta gcacattaca	1920
gatccagttt tccactgatg ctcaaatcgc tttaccaagg gcggagatga gagcggagag	1980
actcaaattg accatgatcc tgatgatgaa caatcccaaa ctggaacgca ctgtcctggt	2040
tggcggcact attgccctga gctgtccagg caaaggcgac cttcacctc acttggaatg	2100
gcttctagct gatgggagta aagtgagagc cccttacgtt agcgaggatg ggcgaatcct	2160
aatagacaaa aatgggaagt tggaactgca gatggctgac agctttgatg caggctctta	2220
ccactgcata agcaccaatg atgcagatgc ggatgttctc acatacagga taactgtggt	2280
agagccctat ggagaaagca cacatgacag tggagtccag cacacagtgg ttacgggtga	2340
gacgctcgac cttccatgcc tttccacggg tgttccagat gcttctatta gctggattct	2400
tccagggaac actgtgttct ctcagccatc aagagacagg caaattctta acaatgggac	2460

cttaagaata ttacagggtta cgccaaaaga tcaagggtcat taccaatgtg tggctgccaa	2520
cccatcaggg gccgactttt ccagttttta agtttcagtt caaaagaaag gccaaaggat	2580
ggttgagcat gacagggagg caggtggatc tggacttga gaacccaact ccagtgtttc	2640
ccttaagcag ccagcatctt tgaaactctc tgcacagct ttgacagggc cagaggtgg	2700
aaaacaagtc tccggtgtac ataggaagaa caaacataga gacttaatac atcggcggcg	2760
tggggattcc acgctccggc gattcagga gcataggagg cagctccctc tctctgctcg	2820
gagaattgac ccgcaacgct gggcagcact tctagaaaaa gccaaaaaga attctgtgcc	2880
aaaaaagcaa gaaaatacca cagtaaagcc agtgccactg gctgttcccc tcgtggaact	2940
cactgacgag gaaaaggatg cctctggcat gattcctcca gatgaagaat tcatggttct	3000
gaaaactaag gcttctgggtg tcccaggaag gtcaccaact gctgactctg gaccagtaaa	3060
tcatggtttt atgacgagta tagcttctgg cacagaagtc tcaactgtga atccacaaac	3120
actacaatct gagcaccttc ctgatttcaa attatttagt gtaacaaacg gtacagctgt	3180
gacaaagagt atgaacccat ccatagcaag caaaatagaa gatacaacca accaaaaccc	3240
aatcattatc tttccatcag tagctgaaat tcgagattct gctcaggcag gaagagcatc	3300
ttcccaaagt gcacaccctg taacaggggg aaacatggct acctatggcc ataccaacac	3360
atatagtagc tttaccagca aagccagtac agtcttgag ccaataaatc caacagaaag	3420
ttatggacct cagataccta ttacaggagt cagcagacct agcagtagtg acatctcttc	3480
tcacactact gcagacccta gcttctccag tcacccttca ggttcacaca ccactgcctc	3540
gtctttatth cacattccta gaaacaacaa tacaggtaac ttccccctgt ccaggcactt	3600
gggaagagag aggacaattt ggagcagagg gagagttaaa aaccacata gaacccagc	3660
tctccgacgg catagacaca ggactgtgag gccagcaatc aagggacctg ctaacaaaaa	3720
tgtgagccaa gttccagcca cagagtaccc tgggatgtgc cacacatgtc cttccgcaga	3780
ggggctcaca gtggctactg cagcactgtc agttccaagt tcatcccaca gtgccctccc	3840
caaaactaat aatgttgggg tcatagcaga agagtctacc actgtggtca agaaaccact	3900
gttactatth aaggacaaac aaaatgtaga tattgagata ataacaacca ctacaaaata	3960
ttccggaggg gaaagtaacc acgtgattcc tacggaagca agcatgactt ctgctccaac	4020
atctgtatcc ctggggaaat ctctgtaga caatagtggc cacctgagca tgcctgggac	4080
catccaaact gggaaagatt cagtggaaac aacaccactt ccagccccc tcagcacacc	4140
ctcaatacca acaagcacia aattctcaaa gagggaaaact cccttgacc agatctttgt	4200

aaataaccag aagaaggagg ggatgttaaa gaatccatat caattcggtt tacaaaagaa	4260
cccagccgca aagcttccca aaatagctcc tcttttacct acaggtcaga gttccccctc	4320
agattctaca actctcttga caagtccgcc accagctctg tctacaacaa tggctgccac	4380
tcagaacaag ggcactgaag tagtatcagg tgccagaagt ctctcagcag ggaagaagca	4440
gcccttcacc aactcctctc cagtgttcc tagcaccata agcaagagat ctaatacatt	4500
aaacttcttg tcaacggaaa cccccacagt gacaagtcct actgctactg catctgtcat	4560
tatgtctgaa acccaacgaa caagatccaa agaagcaaaa gaccaaataa aggggcctcg	4620
gaagaacaga aacaacgcaa acaccacccc caggcaggtt tctggctata gtgcatactc	4680
agctctaaca acagctgata ccccccttggc ttctagtcct tccccacgac aagatgatgg	4740
tggaaatgta agtgcagttg cttatcactc aacaacctct cttctggcca taactgaact	4800
gtttgagaag tacaccacaga ctttgggaaa tacaacagct ttggaaacaa cgttggtgag	4860
caaatcacag gagagtacca cagtgaagag agcctcagac acaccaccac cactcctcag	4920
cagtggggcg cccccagtgc ccactccttc cccacctcct ttactaagg gtgtggttac	4980
agacagcaaa gtcacatcag ctttccagat gacgtcaaat agagtgggtca ccatatatga	5040
atcttcaagg cacaatacag atctgcagca accctcagca gaggctagcc ccaatcctga	5100
gatcataact ggaaccactg actctccctc taatctgttt ccatccactt ctgtgccagc	5160
actaagggtg gataaaccac agaattctaa atggaagccc tctccctggc cagaacacaa	5220
atatcagctc aagtcatact ccgaaaccat tgagaagggc aaaaggccag cagtaagcat	5280
gtccccccac ctcagccttc cagaggccag cactcatgcc tcacactgga atacacagaa	5340
gcatgcagaa aagagtgttt ttgataagaa acctgggtcaa aaccaactt ccaaacatct	5400
gccttacgtc tctctaccta agactctatt gaaaaagcca agaataattg gaggaaaggc	5460
tgcaagcttt acagttccag ctaattcaga cgtttttctt ccttgtgagg ctgttggaga	5520
cccactgccc atcatccact ggaccagagt ttcacagga nttgaaatat cccaagggac	5580
acagaaaagc cggttccacg tgcttcccaa tggcaccttg tccatccaga gggtcagtat	5640
tcaggaccgt ggacagtacc tgtgctctgc atttaatcca ctgggcgtag accattttca	5700
tgtctctttg tctgtggttt ttaccgggc aaggattttg gacagacatg tcaaggagat	5760
cacagttcac tttggaagta ctgtggaact aaagtgcaga gtggagggtg tgccgaggcc	5820
tacggtttcc tggatacttg caaaccaaac ggtggtctca gaaacggcca agggaagcag	5880

aaaggtctgg gtaacacctg atggaacatt gatcatctat aatctgagtc tttatgatcg	5940
tggttttttac aagtgtgtgg ccagcaaccc atctggccag gattcactgt tggttaagat	6000
acaagtcatc acagctcccc ctgtcattat agagcaaaag aggcaagcca tcgttgggggt	6060
tttaggtgga agtttgaaac tgcctgcac tgcaaaagga actccccagc ctagtgttca	6120
ctgggtcctt tatgatggga ctgaactaaa accattgcag ttgactcatt ccagattttt	6180
cttgtatcca aatggaactc tgtatataag aagcatcgct ccttcagtga ggggcactta	6240
tgagtgcatt gccaccagct cctcaggctc agagagaagg gtagtgattc ttactgtgga	6300
agagggagag acaatcccca ggatagaaac tgcctctcag aaatggactg aggtgaattt	6360
gggtgagaaa ttactactga actgctcagc tactggggat ccaaagccta gaataatctg	6420
gaggctgcc tccaaggctg tcatcgacca gtggcacaga atgggcagcc gaatccacgt	6480
ctacccaaat ggatccttgg tggttgggtc agtgacggaa aaagacgctg gtgactactt	6540
atgtgtggca agaaacaaaa tgggagatga cctagtcctg atgcatgtcc gcctgagatt	6600
gacacctgcc aaaattgaac agaagcagta ttttaagaag caagtgtcc atgggaaaga	6660
tttccaagtt gactgcaagg cctctggctc ccctgtgctt gaggtatcct ggagtttgcc	6720
tgatgggaca gtgctcaaca atgtagccca agctgatgac agtggctata ggaccaagag	6780
gtacaccctt ttccacaatg gaaccttgta tttcaacaac gttgggatgg cagaggaagg	6840
agattatata tgctctgccc agaacacctt agggaaagat gagatgaaag tccacctaac	6900
agttctaaca gccatccac ggataaggca aagctacaag accaccatga ggctcagggc	6960
tggagaaaca gctgtccttg actgcgaggt cactggggaa ccgaagccca atgtattttg	7020
gttgtgcct tccaacaatg tcatttcatt ctccaatgac aggttcacat ttcatgccaa	7080
tagaactttg tccatccata aagtgaacc acttgactct ggggactatg tgtgcgtagc	7140
tcagaatcct agtggggatg aactaagac atacaaactg gacattgtct ctaaacctcc	7200
attaatcaat ggctgtatg caaacaagac tgtattataa gccacagcca ttcggcactc	7260
caaaaaatac tttgactgca gagcagatgg gatcccatct tcccaggta cgtggattat	7320
gccaggcaat attttcctcc cagctccata ctttggaagc agagtcacgg tccatccaaa	7380
tggaaccttg gagatgagga acatccggct ttctgactct gcggacttca cctgtgtgggt	7440
tcggagcgag ggaggagaga gtgtgttgggt agtgcagtta gaagtcctag aaatgctgag	7500
aagaccaaca ttcagaaacc cattcaacga aaaagtcac gcccaagctg gcaagcccgt	7560
agcactgaac tgctctgtgg atgggaaccc cccacctgaa attacctgga tcttacctga	7620

```

cggcacacag tttgctaaca gaccacacaa ttccccgtat ctgatggcag gcaatggctc 7680
tctcatcctt tacaaagcaa ctcggaacaa gtcaggggaag tatcgctgtg cagccaggaa 7740
taaggttggc tacatcgaga aactcatcct gttagagatt gggcagaagc cagtcattct 7800
gacatacgaa ccagggatgg tgaagagcgt cagtggggaa ccgttatcac tgcatttgtt 7860
gtctgatggg atccccaaagc caaatgtcaa gtggactaca ccgggtggcc atgtaatcga 7920
caggcctcaa gtggatggaa aatacatact gcatgaaaat ggcacgctgg tcatcaaagc 7980
aacaacagct cacgaccaag gaaattatat ctgtagggtc caaacagtg ttggccaggc 8040
agttattagc gtgtcagtga tggttgtggc ctaccctccc cgaatcataa actacctacc 8100
caggaacatg ctcaggagga caggggaagc catgcagctc cactgtgtgg ccttggaat 8160
ccccaaagcca aaagtcacct gggagacgcc aagacactcc ctgctctcaa aagcaacagc 8220
aagaaaaccc catagaagtg agatgcttca ccacaagggt acgctgggtca ttcagaatct 8280
ccaaacctcg gattccggag tctataagtg cagagctcag aacctacttg ggactgatta 8340
cgcaacaact tacatccagg tactctgaca ggaaggggga gactaaaatt caacagaagt 8400
ccacatccac aggggtttatt ttttgaaga agtttaatca aaggcagcca taggcatgta 8460
aatgagtctg aatacattta cagtattaaa tttacaatgg acatgcatg agacttgtaa 8520
atgaaagcat tgtgaactga aaccgagtct ctgtggatct caaagcaaac tcttaactta 8580
aggcactttg attttgccaa caaataataa caaacattaa gagaaaaaaa tgatccacta 8640
cgaaataaca aacggctaata gcacctgaat tctcagtaaa aagacctttc tctcgctaac 8700
agttgccagc tgctcgtgt ctgtttccta ccaatgtcac aaacatcgca cacagggtga 8760
atggagtcaa cgggaaagat taagtttgcg gtctgtgtaa atctcaatgt acaaatatc 8820
tgtcnctggg ttataaacat tttgataaaa ccgaaaaaaaa aaaaaaaaaa aaaaaaaaaa 8880
aaa 8883

```

```

<210> 8
<211> 8180
<212> DNA
<213> homo sapiens

<220>
<221> misc_feature
<222> (1)..(8180)
<223> 'n' can be any nucleotide 'a', 'c', 'g' or 't'.

```



<400> 8

tcacctgctt gctggtctcc tttgctgtga tctgcctggc cgccaccctt gggggcaagg 60  
cctgtcctcg ccgctgtgcc tgttatatgc ctacggaggt aactgcaca tttcgggtacc 120  
tgacttccat cccagacagc atcccgccca atgtggaacg catcaattta ggatacaaca 180  
gcttggttag attgatggaa acagattttt ctggcctgac caaactggag ttactcatgc 240  
ttcacagcaa tggcattcac acaatccctg acaagacctt ctcagatttg caggccttgc 300  
aggctctaaa aatgagctat aataaagtcc gaaaacttca gaaagatact ttttatggcc 360  
tcaggagctt gacacgattg cacatggacc acaacaatat tgagtattata aaccagagg 420  
ttttttatgg gctcaacttt ctccgcttgg tgcacttggc aggaatcag ctactaagg 480  
tccaccaga tacatttgc tctttgagct acctccagat atttaaaatc tctttcatta 540  
agttcctata cttgtctgat aacttctga cctccctccc tcaagagatg gtctcctata 600  
tgctgacct agacagcctt tacctgcatg gaaacccatg gacctgtgat tgccatttaa 660  
agtggttgtc tgactggata caggnnnnnc cagatgtaat aaaatgcaa aaagatagaa 720  
gtccctctag tgctcagcag tgtccacttt gcatgaacc taggacttct aaaggcaagg 780  
cgtagctat ggtctcagct gcagctttcc agtggtgcaa gccaacatt gactcatccc 840  
tgaaatcaaa gagcctgact attctggaag acagtagttc tgctttcatc tctccccaag 900  
gtttcatggc accctttggc tccctcactt tgaatatgac agatcagtct ggaaatgaag 960  
ctaactggt ctgcagtatt caaaagccct caaggacatc acccattgca ttactgaag 1020  
aaaatgacta catcgtgcta aatacttcat tttcaacatt tttggtgtgc aacatagatt 1080  
acggtcacat tcagccagtg tggcaaattt tggctttgta cagtgtattc cctctgatac 1140  
tagaaaggag ccacttgctt agtgaaacac cgcagctcta ttacaaatat aaacaggctt 1200  
ggttaatgca agaccaaatt tccttgcagc tgaacagaac tgccaccaca ttcagtacat 1260  
tacagatcca gtactccagt gatgctcaaa tcactttacc aagagcagag atgaggccag 1320  
tgaaacacaa atggactatg atttcaaggg ataacaatac taagctggaa catactgtct 1380  
tggtagggtg aaccgttggc ctgaactgcc caggccaagg agacccacc ccacacgtgg 1440  
attggttct agctgatgga agtaaagtga gagcccctta tgtcagtga gatggacgga 1500  
tcctaataga caaaagtgga aaattggaac tccagatggc tgatagtttt gacacaggcg 1560  
tatatcactg tataagcagc aattatgatg atgcagatat tctcacctat aggataactg 1620  
tggtagaacc tttggtcgaa gcctatcagg aaaatgggat tcatcacaca gttttcattg 1680

gtgaaacact	tgatcttcca	tgccattcta	ctggtatccc	agatgcctct	attagctggg	1740
ttattccagg	aaacaatgtg	ctctatcagt	catcaagaga	caagaaagtt	ctaaacaatg	1800
gcacattaag	aatattacag	gtcaccccca	aagaccaagg	ttattatcgc	tgtgtggcag	1860
ccaacccatc	aggggttgat	tttttgattt	tccaagtttc	agtcaagatg	aaaggacaaa	1920
ggcccttgga	gcatgatgga	gaaacagagg	gatctggact	tgatgagtcc	aatcctattg	1980
ctcatcttaa	ggagccacca	ggtgcacaac	tccgtacatc	tgctctgatg	gaggctgagg	2040
ttggaaaaca	cacctcaagc	acaagtaaga	ggcacaacta	tcgggaatta	acactccagc	2100
gacgtggaga	ttcaacacat	cgacgtttta	gggagaatag	gaggcatttc	cctccctctg	2160
ctaggagaat	tgaccacaaa	cattgggcgg	cactgttgga	gaaagctaaa	aagaatgcta	2220
tgccagacaa	gcgagaaaat	accacagtga	gcccaccccc	agtggtcacc	caactcccaa	2280
acatacctgg	tgaagaagac	gattcctcag	gcatgctcgc	tctacatgag	gaatttatgg	2340
tcccggccac	taaagctttg	aaccttccag	caaggacagt	gactgctgac	tccagaacaa	2400
tatctgatag	tcctatgaca	aacataaatt	atggcacaga	actctccggt	gtgaattcac	2460
aaatactacc	acctgaagaa	cccacagatt	tcaaactgtc	tactgctatt	aaaactacag	2520
ccatgtcaaa	gaatataaac	ccaacatgt	caagccaaat	acaaggcaca	accaatcaac	2580
attcatccac	tgtctttcca	ctgctacttg	gagcaactga	atttcaggac	tctgacagag	2640
ggaagaggaa	gagagcattt	ccagtaacct	ccaataacag	taaggactat	gatcaaagat	2700
gntcaatgtc	aaanatgctt	agtagcacca	ccaacaaact	attattagag	tcagtaaata	2760
ccacaaatag	tcatcagaca	tctgtaagag	aagtgagtga	accaggcac	aatcacttct	2820
attctcacac	tactcaaata	cttagcacct	ccacgttccc	ttcagatcca	cacacagctg	2880
ctcatttctca	gtttccgatc	cctagannna	atagtacagt	taacatcccc	ctgttcagac	2940
gctttgggag	gcagaggaaa	attggcggaa	gggggcggat	tatcagccca	tatagaactc	3000
cagttctgcg	acggcataga	tacagcattt	tcaggccaac	aaccagaggt	tcttctgaaa	3060
aaagcactac	tgcatcttca	gccacagtgc	tcaatgtgac	atgtctgtcc	tgtcttccca	3120
gggagagggt	caccactgcc	acagcagcat	tgtcttttcc	aagtgtgtgt	cccatcacct	3180
tcccaaaagc	tgacattgct	agagtcccat	cagaagagtc	tacaactcta	gtccagaatc	3240
cactattact	acttgagaac	aaacccagtg	tagannnnga	aannacaaca	cccacaataa	3300
aatattcagg	actngaaatt	tcccaagtga	ctccaactgg	tgcagtcatg	acatatgctc	3360
caacatccat	acccatggaa	aaaactcaca	aagtaaacgc	cagttaccca	cgtgtgtcta	3420

gcaccaatga agctaaaaga gattcagtga ttacatcgtc actttcaggt gctatcacca	3480
agccaccaat gactattata gccattacaa ggttttcaag aaggaaaatt ccctggcaac	3540
agaactttgt aaataaccat aacccaaaag gcagattaag gaatcaacat aaagttagtt	3600
tacaaaaaag cacagctgtg atgcttccta aaacatctcc tgctttacca cagagacaaa	3660
gttccccctt ccatttcacc acactttcaa caagtgtgat gcaaattcca tctaatacct	3720
tgactaccgc tcaccacact acgaccaaaa cacacaatcc tggaagtctt ccaacaaaga	3780
aggagcttcc ctccccacc cttaaccta tgcttcctag tattataagc aaagactcaa	3840
gtacaaaaag catcatatca acgcaaacag caaccgcaac aactcctacc ttccctgcat	3900
ctgtcatcac ttatgaaacc caaacagaga gatctagagc acaacaata caaagagaag	3960
gacctcaaaa gaagaacagg actgacccaa acatctctcc agaccagagt tctggcttca	4020
ctacaccac tgctatgacn acctcctnng ctctnnnngc attcactcat tccccaccag	4080
aaaacacaac tgggatttca agcacaatca gttttcattc aagaactctt aatctgacag	4140
atgtgattga agaactagcc caagcaagta ctcagacttt gaagagcaca attgcttctg	4200
aaacaacttt gtccagcaaa tcacaccaga gtaccacaac taggaaagca tcattagaca	4260
ctcaaccacc accattcttg agcagcagtg ctactctaata gccagttccc atctcccctc	4320
cctttactca gagagcagtt actgacaacg tggcgactcc catttccggg cttatgacaa	4380
atacagtggt caagctgcac gaatcctcaa ggcacaatcc nnnnnnncaa atgccagtt	4440
cacnnaattg ngaaccnnnn actcnnnnna cttcatctac ntctaactctg ttacattcta	4500
ctcccatgcc agcactaaca acagttaaat cacagaattc caaattaact ccatctccct	4560
gggcagaata ccaatttttg cacaaaccat actcagacat tgctgaaaaa ggcaaaaagc	4620
cagaagtaag catgttggct actacaggcc tgtccgaggc caccactctt gtttcagatt	4680
gggatggaca gaagaacaca aagaagagtg actttgataa gaaaccagtt caagaagcaa	4740
caacttccaa actccttccc tttgactctt tgtctaggta tatatttgaa aagcccagga	4800
tagttggagg aaaagctgca agttttacta ttccagctaa ctcagatgcc tttcttccct	4860
gtgaagctgt tggaaatccc ctgccacca ttcatgggac cagagtnnnn tcaggacttg	4920
atztatctaa gaggaaacag aatagcaggg tccaggttct cccaatggg accctgtcca	4980
tccagagggg ggaaattcag gaccgcggac agtacttgtg ttccgcaccc aatctgtttg	5040
gcacagacca cttcatgtc acctgtgtctg tggtttccta tctcccagg atcctggaga	5100



gctgagaaga cgcacattta gaaatccatt taatgaaaaa atagttgccc agctgggaaa 6900  
gtccacagca ttgaattgct ctgttgatgg taaccaccca cctgaaataa tctggatttt 6960  
accaaattggc acacgatttt ccaatggacc acaaagttat cagtatctga tagcaagcaa 7020  
tggttctttt atcattttcta aaacaactcg ggaggatgca ggaaaatata gctgtgcagc 7080  
taggaataaa gttggctata ttgagaaatt agtcatatta gaaattggcc agaagccagt 7140  
tattcttacc tatgcaccag ggacagtaaa aggcacagc ggagaatctc tatcactgca 7200  
ttgtgtgtct gatggaatcc ctaagccaaa tatcaaatgg actatgcaa gtggttatgt 7260  
agtagacagg cctcaaatta atgggaaata catattgcat gacaatggca ccttagtcat 7320  
taaagaagca acagcttatg acagaggaaa ctatatctgt aaggctcaaa atagtgttgg 7380  
tcatacactg attactgttc cagtaatgat tgtagcctac cctccccgaa ttacaaatcg 7440  
tccaccacagg agtattgtca ccaggacagg ggcagccttt cagctccact gtgtggcctt 7500  
gggagttccc aagccagaaa tcacatggga gatgcctgac cactcccttc tctcaacggc 7560  
aagtaaagag aggacacatg gaagtgaagca gcttcactta caaggtagcc tagtcattca 7620  
gaatcccaaa acctccgatt ctgggatata caaatgcaca gcaaagaacc cacttggttag 7680  
tgattatgca gcaacgtata ttcaagtaat ctgacatgaa ataataaagt caacaacatc 7740  
tgggcagaat ttattttttg gaagaagttt aatcaaaggc agccataggc atgtaaatga 7800  
atgtgaatac atttacagta ttaaatttac aatgaacatg caaaataaaa ggacttgtaa 7860  
ataaatgcat tatgaactga tgatactgat ttatttaatg gatctcaaaa caaactttta 7920  
acttaaggca cttttatttt gccacaaaat aacaataaac aaacattgaa acggttcact 7980  
ataaaataac aaatggctaa tgtacctgaa tttttcagta aaaaaatgaa cttctaatac 8040  
cagttgccta gtgtccacct cctatcaatg ttacaagcat ggcaactcaga acagagacaa 8100  
tggaataat taaatctgca atctatgtat aaatatattg tggtttataa atttttttgc 8160  
taaaacctac agaaaataag 8180

<210> 9  
<211> 897  
<212> DNA  
<213> Mus musculus  
  
<220>  
<221> misc\_feature  
<222> (1)..(897)  
<223> 'n' can be any nucleotide 'a', 'c', 'g' or 't'.

```

<400> 9
aagaacgttc cttcaatcag gtgaaggctc tcctcagaag atttcctgtc tctgcttatg      60
tcagctgctt gctgatctcc ctcaactgcc tctgcctggg ggtcaccctt gggagcaggg      120
tctgtcctcg ccgatgtgcc tgctatgtgc ccacagaggt gcactgtaca tttcgggacc      180
tgacctccat cccagacggg catcccagcc aatgtggaac gactcaattt aggggtataac      240
agcctcacta gattgacaga aaatgacttt tctggcctga gcagactgga gttactcatg      300
ctgcacagca atggcattca cagagtcagt gacaagacct tctcgggctt gcagtccttg      360
caggtcttaa aaatgagcta taacaaagtc caaataattg agaaggatac tttgtatgga      420
ctcaggagct tgaccgggtt gcacctggat cacaacaaca ttgagtttat caaccccgag      480
gcgttttaag gactcacctt gctccgcttg gtacatctag aaggaaaccg gctgacaaag      540
ctccatccag acacatttgt ctctttgagc tatctccaga tatttaaaac ctcttcatt      600
aagnacctgt acttgatga taacttcatt gacctccctc caaaagaaa tgggtctctc      660
tatgcaaacc ctagaaagcc tttacttgca tggaaacca tggacctgtg actgccattt      720
aaagtgggtg tccgagtgga tgcagggaaa ccagagtaac tatcttgttt gtttgtttct      780
ttttttatar kacgtatttt cctcaatttc atttagaatg atatcccaa agtcccccat      840
aacctcccc ccacttcctt acctacccat tccattttt tggccctggc attcccc      897

```

```

<210> 10
<211> 2597
<212> PRT
<213> Rattus species

<220>
<221> misc_feature
<222> (1)..(2597)
<223> 'x' can be any amino acid

```

```

<400> 10
Met Gln Val Arg Gly Arg Glu Val Ser Gly Leu Leu Ile Ser Leu Thr
1          5          10          15
Ala Val Cys Leu Val Val Thr Pro Gly Ser Arg Ala Cys Pro Arg Arg
          20          25          30
Cys Ala Cys Tyr Val Pro Thr Glu Val His Cys Thr Phe Arg Tyr Leu
          35          40          45
Thr Ser Ile Pro Asp Gly Ile Pro Ala Asn Val Glu Arg Ile Asn Leu

```

50					55					60						
Gly	Tyr	Asn	Ser	Leu	Thr	Arg	Leu	Thr	Glu	Asn	Asp	Phe	Asp	Gly	Leu	
65					70					75					80	
Ser	Lys	Leu	Glu	Leu	Leu	Met	Leu	His	Ser	Asn	Gly	Ile	His	Arg	Val	
			85						90					95		
Ser	Asp	Lys	Thr	Phe	Ser	Gly	Leu	Gln	Ser	Leu	Gln	Val	Leu	Lys	Met	
			100					105					110			
Ser	Tyr	Asn	Lys	Val	Gln	Ile	Ile	Arg	Lys	Asp	Thr	Phe	Tyr	Gly	Leu	
		115					120					125				
Gly	Ser	Leu	Val	Arg	Leu	His	Leu	Asp	His	Asn	Asn	Ile	Glu	Phe	Ile	
		130					135					140				
Asn	Pro	Glu	Ala	Phe	Tyr	Gly	Leu	Thr	Ser	Leu	Arg	Leu	Val	His	Leu	
145							150					155			160	
Glu	Gly	Asn	Arg	Leu	Thr	Lys	Leu	His	Pro	Asp	Thr	Phe	Val	Ser	Leu	
				165					170					175		
Ser	Tyr	Leu	Gln	Ile	Phe	Lys	Thr	Ser	Phe	Ile	Lys	Tyr	Leu	Phe	Leu	
			180					185					190			
Ser	Asp	Asn	Phe	Leu	Thr	Ser	Leu	Pro	Lys	Glu	Met	Val	Ser	Tyr	Met	
		195					200					205				
Pro	Asn	Leu	Glu	Ser	Leu	Tyr	Leu	His	Gly	Asn	Pro	Trp	Thr	Cys	Asp	
		210					215					220				
Cys	His	Leu	Lys	Trp	Leu	Ser	Glu	Trp	Met	Gln	Gly	Asn	Pro	Asp	Ile	
225							230					235			240	
Ile	Lys	Cys	Lys	Lys	Asp	Arg	Ser	Ser	Ser	Ser	Pro	Gln	Gln	Cys	Pro	
				245					250					255		
Leu	Cys	Met	Asn	Pro	Arg	Ile	Ser	Lys	Gly	Arg	Pro	Phe	Ala	Met	Val	
			260					265					270			
Pro	Ser	Gly	Ala	Phe	Leu	Cys	Thr	Lys	Pro	Thr	Ile	Asp	Pro	Ser	Leu	
		275					280					285				
Lys	Ser	Lys	Ser	Leu	Val	Thr	Gln	Glu	Asp	Asn	Gly	Ser	Ala	Ser	Thr	
		290					295					300				
Ser	Pro	Gln	Asp	Phe	Ile	Glu	Pro	Phe	Gly	Ser	Leu	Ser	Leu	Asn	Met	
305							310					315			320	
Thr	Xaa	Xaa	Ser	Gly	Asn	Lys	Ala	Asp	Met	Val	Cys	Ser	Ile	Gln	Lys	
				325					330					335		
Pro	Ser	Arg	Thr	Ser	Pro	Thr	Ala	Phe	Thr	Glu	Glu	Asn	Asp	Tyr	Ile	
			340					345					350			
Met	Leu	Asn	Ala	Ser	Phe	Ser	Thr	Asn	Leu	Val	Cys	Ser	Val	Asp	Tyr	

355	360	365
Asn His Ile Gln Pro Val Trp Gln Leu Leu Ala Leu Tyr Ser Asp Ser		
370	375	380
Pro Leu Ile Leu Glu Arg Lys Pro Gln Leu Thr Glu Thr Pro Ser Leu		
385	390	395 400
Ser Ser Arg Tyr Lys Gln Val Ala Leu Arg Pro Glu Asp Ile Phe Thr		
	405	410 415
Ser Ile Glu Ala Asp Val Arg Ala Asp Pro Phe Trp Phe Gln Gln Glu		
	420	425 430
Lys Ile Val Leu Gln Leu Asn Arg Thr Ala Thr Thr Leu Ser Thr Leu		
	435	440 445
Gln Ile Gln Phe Ser Thr Asp Ala Gln Ile Ala Leu Pro Arg Ala Glu		
	450	455 460
Met Arg Ala Glu Arg Leu Lys Trp Thr Met Ile Leu Met Met Asn Asn		
465	470	475 480
Pro Lys Leu Glu Arg Thr Val Leu Val Gly Gly Thr Ile Ala Leu Ser		
	485	490 495
Cys Pro Gly Lys Gly Asp Pro Ser Pro His Leu Glu Trp Leu Leu Ala		
	500	505 510
Asp Gly Ser Lys Val Arg Ala Pro Tyr Val Ser Glu Asp Gly Arg Ile		
	515	520 525
Leu Ile Asp Lys Asn Gly Lys Leu Glu Leu Gln Met Ala Asp Ser Phe		
	530	535 540
Asp Ala Gly Leu Tyr His Cys Ile Ser Thr Asn Asp Ala Asp Ala Asp		
545	550	555 560
Val Leu Thr Tyr Arg Ile Thr Val Val Glu Pro Tyr Gly Glu Ser Thr		
	565	570 575
His Asp Ser Gly Val Gln His Thr Val Val Thr Gly Glu Thr Leu Asp		
	580	585 590
Leu Pro Cys Leu Ser Thr Gly Val Pro Asp Ala Ser Ile Ser Trp Ile		
	595	600 605
Leu Pro Gly Asn Thr Val Phe Ser Gln Pro Ser Arg Asp Arg Gln Ile		
	610	615 620
Leu Asn Asn Gly Thr Leu Arg Ile Leu Gln Val Thr Pro Lys Asp Gln		
625	630	635 640
Gly His Tyr Gln Cys Val Ala Ala Asn Pro Ser Gly Ala Asp Phe Ser		
	645	650 655
Ser Phe Lys Val Ser Val Gln Lys Lys Gly Gln Arg Met Val Glu His		



660	665	670
Asp Arg Glu Ala Gly Gly Ser Gly Leu Gly Glu Pro Asn Ser Ser Val		
675	680	685
Ser Leu Lys Gln Pro Ala Ser Leu Lys Leu Ser Ala Ser Ala Leu Thr		
690	695	700
Gly Ser Glu Ala Gly Lys Gln Val Ser Gly Val His Arg Lys Asn Lys		
705	710	715
His Arg Asp Leu Ile His Arg Arg Arg Gly Asp Ser Thr Leu Arg Arg		
725	730	735
Phe Arg Glu His Arg Arg Gln Leu Pro Leu Ser Ala Arg Arg Ile Asp		
740	745	750
Pro Gln Arg Trp Ala Ala Leu Leu Glu Lys Ala Lys Lys Asn Ser Val		
755	760	765
Pro Lys Lys Gln Glu Asn Thr Thr Val Lys Pro Val Pro Leu Ala Val		
770	775	780
Pro Leu Val Glu Leu Thr Asp Glu Glu Lys Asp Ala Ser Gly Met Ile		
785	790	795
Pro Pro Asp Glu Glu Phe Met Val Leu Lys Thr Lys Ala Ser Gly Val		
805	810	815
Pro Gly Arg Ser Pro Thr Ala Asp Ser Gly Pro Val Asn His Gly Phe		
820	825	830
Met Thr Ser Ile Ala Ser Gly Thr Glu Val Ser Thr Val Asn Pro Gln		
835	840	845
Thr Leu Gln Ser Glu His Leu Pro Asp Phe Lys Leu Phe Ser Val Thr		
850	855	860
Asn Gly Thr Ala Val Thr Lys Ser Met Asn Pro Ser Ile Ala Ser Lys		
865	870	875
Ile Glu Asp Thr Thr Asn Gln Asn Pro Ile Ile Ile Phe Pro Ser Val		
885	890	895
Ala Glu Ile Arg Asp Ser Ala Gln Ala Gly Arg Ala Ser Ser Gln Ser		
900	905	910
Ala His Pro Val Thr Gly Gly Asn Met Ala Thr Tyr Gly His Thr Asn		
915	920	925
Thr Tyr Ser Ser Phe Thr Ser Lys Ala Ser Thr Val Leu Gln Pro Ile		
930	935	940
Asn Pro Thr Glu Ser Tyr Gly Pro Gln Ile Pro Ile Thr Gly Val Ser		
945	950	955
Arg Pro Ser Ser Ser Asp Ile Ser Ser His Thr Thr Ala Asp Pro Ser		

975

Ser Asp Ser Thr Thr Leu Leu Thr Ser Pro Pro Pro Ala Leu Ser

1250	1255	1260
Thr Thr Met Ala Ala Thr Gln Asn Lys Gly Thr Glu Val Val Ser		
1265	1270	1275
Gly Ala Arg Ser Leu Ser Ala Gly Lys Lys Gln Pro Phe Thr Asn		
1280	1285	1290
Ser Ser Pro Val Leu Pro Ser Thr Ile Ser Lys Arg Ser Asn Thr		
1295	1300	1305
Leu Asn Phe Leu Ser Thr Glu Thr Pro Thr Val Thr Ser Pro Thr		
1310	1315	1320
Ala Thr Ala Ser Val Ile Met Ser Glu Thr Gln Arg Thr Arg Ser		
1325	1330	1335
Lys Glu Ala Lys Asp Gln Ile Lys Gly Pro Arg Lys Asn Arg Asn		
1340	1345	1350
Asn Ala Asn Thr Thr Pro Arg Gln Val Ser Gly Tyr Ser Ala Tyr		
1355	1360	1365
Ser Ala Leu Thr Thr Ala Asp Thr Pro Leu Ala Phe Ser His Ser		
1370	1375	1380
Pro Arg Gln Asp Asp Gly Gly Asn Val Ser Ala Val Ala Tyr His		
1385	1390	1395
Ser Thr Thr Ser Leu Leu Ala Ile Thr Glu Leu Phe Glu Lys Tyr		
1400	1405	1410
Thr Gln Thr Leu Gly Asn Thr Thr Ala Leu Glu Thr Thr Leu Leu		
1415	1420	1425
Ser Lys Ser Gln Glu Ser Thr Thr Val Lys Arg Ala Ser Asp Thr		
1430	1435	1440
Pro Pro Pro Leu Leu Ser Ser Gly Ala Pro Pro Val Pro Thr Pro		
1445	1450	1455
Ser Pro Pro Pro Phe Thr Lys Gly Val Val Thr Asp Ser Lys Val		
1460	1465	1470
Thr Ser Ala Phe Gln Met Thr Ser Asn Arg Val Val Thr Ile Tyr		
1475	1480	1485
Glu Ser Ser Arg His Asn Thr Asp Leu Gln Gln Pro Ser Ala Glu		
1490	1495	1500
Ala Ser Pro Asn Pro Glu Ile Ile Thr Gly Thr Thr Asp Ser Pro		
1505	1510	1515
Ser Asn Leu Phe Pro Ser Thr Ser Val Pro Ala Leu Arg Val Asp		
1520	1525	1530
Lys Pro Gln Asn Ser Lys Trp Lys Pro Ser Pro Trp Pro Glu His		

1535		1540		1545
Lys Tyr Gln Leu Lys Ser	Tyr Ser Glu Thr Ile	Glu Lys Gly Lys		
1550	1555	1560		
Arg Pro Ala Val Ser Met	Ser Pro His Leu Ser	Leu Pro Glu Ala		
1565	1570	1575		
Ser Thr His Ala Ser His	Trp Asn Thr Gln Lys	His Ala Glu Lys		
1580	1585	1590		
Ser Val Phe Asp Lys Lys	Pro Gly Gln Asn Pro	Thr Ser Lys His		
1595	1600	1605		
Leu Pro Tyr Val Ser Leu	Pro Lys Thr Leu Leu	Lys Lys Pro Arg		
1610	1615	1620		
Ile Ile Gly Gly Lys Ala	Ala Ser Phe Thr Val	Pro Ala Asn Ser		
1625	1630	1635		
Asp Val Phe Leu Pro Cys	Glu Ala Val Gly Asp	Pro Leu Pro Ile		
1640	1645	1650		
Ile His Trp Thr Arg Val	Ser Ser Gly Xaa Glu	Ile Ser Gln Gly		
1655	1660	1665		
Thr Gln Lys Ser Arg Phe	His Val Leu Pro Asn	Gly Thr Leu Ser		
1670	1675	1680		
Ile Gln Arg Val Ser Ile	Gln Asp Arg Gly Gln	Tyr Leu Cys Ser		
1685	1690	1695		
Ala Phe Asn Pro Leu Gly	Val Asp His Phe His	Val Ser Leu Ser		
1700	1705	1710		
Val Val Phe Tyr Pro Ala	Arg Ile Leu Asp Arg	His Val Lys Glu		
1715	1720	1725		
Ile Thr Val His Phe Gly	Ser Thr Val Glu Leu	Lys Cys Arg Val		
1730	1735	1740		
Glu Gly Met Pro Arg Pro	Thr Val Ser Trp Ile	Leu Ala Asn Gln		
1745	1750	1755		
Thr Val Val Ser Glu Thr	Ala Lys Gly Ser Arg	Lys Val Trp Val		
1760	1765	1770		
Thr Pro Asp Gly Thr Leu	Ile Ile Tyr Asn Leu	Ser Leu Tyr Asp		
1775	1780	1785		
Arg Gly Phe Tyr Lys Cys	Val Ala Ser Asn Pro	Ser Gly Gln Asp		
1790	1795	1800		
Ser Leu Leu Val Lys Ile	Gln Val Ile Thr Ala	Pro Pro Val Ile		
1805	1810	1815		
Ile Glu Gln Lys Arg Gln	Ala Ile Val Gly Val	Leu Gly Gly Ser		

Leu Lys	Leu Pro Cys Thr	Ala	Lys Gly Thr Pro	Gln	Pro Ser Val
1835		1840		1845	
His Trp	Val Leu Tyr Asp	Gly	Thr Glu Leu Lys	Pro	Leu Gln Leu
1850		1855		1860	
Thr His	Ser Arg Phe Phe	Leu	Tyr Pro Asn Gly	Thr	Leu Tyr Ile
1865		1870		1875	
Arg Ser	Ile Ala Pro Ser	Val	Arg Gly Thr Tyr	Glu	Cys Ile Ala
1880		1885		1890	
Thr Ser	Ser Ser Gly Ser	Glu	Arg Arg Val Val	Ile	Leu Thr Val
1895		1900		1905	
Glu Glu	Gly Glu Thr Ile	Pro	Arg Ile Glu Thr	Ala	Ser Gln Lys
1910		1915		1920	
Trp Thr	Glu Val Asn Leu	Gly	Glu Lys Leu Leu	Leu	Asn Cys Ser
1925		1930		1935	
Ala Thr	Gly Asp Pro Lys	Pro	Arg Ile Ile Trp	Arg	Leu Pro Ser
1940		1945		1950	
Lys Ala	Val Ile Asp Gln	Trp	His Arg Met Gly	Ser	Arg Ile His
1955		1960		1965	
Val Tyr	Pro Asn Gly Ser	Leu	Val Val Gly Ser	Val	Thr Glu Lys
1970		1975		1980	
Asp Ala	Gly Asp Tyr Leu	Cys	Val Ala Arg Asn	Lys	Met Gly Asp
1985		1990		1995	
Asp Leu	Val Leu Met His	Val	Arg Leu Arg Leu	Thr	Pro Ala Lys
2000		2005		2010	
Ile Glu	Gln Lys Gln Tyr	Phe	Lys Lys Gln Val	Leu	His Gly Lys
2015		2020		2025	
Asp Phe	Gln Val Asp Cys	Lys	Ala Ser Gly Ser	Pro	Val Pro Glu
2030		2035		2040	
Val Ser	Trp Ser Leu Pro	Asp	Gly Thr Val Leu	Asn	Asn Val Ala
2045		2050		2055	
Gln Ala	Asp Asp Ser Gly	Tyr	Arg Thr Lys Arg	Tyr	Thr Leu Phe
2060		2065		2070	
His Asn	Gly Thr Leu Tyr	Phe	Asn Asn Val Gly	Met	Ala Glu Glu
2075		2080		2085	
Gly Asp	Tyr Ile Cys Ser	Ala	Gln Asn Thr Leu	Gly	Lys Asp Glu
2090		2095		2100	
Met Lys	Val His Leu Thr	Val	Leu Thr Ala Ile	Pro	Arg Ile Arg

Gln Ser Tyr Lys Thr Thr Met Arg Leu Arg Ala Gly Glu Thr Ala		
2120	2125	2130
Val Leu Asp Cys Glu Val Thr Gly Glu Pro Lys Pro Asn Val Phe		
2135	2140	2145
Trp Leu Leu Pro Ser Asn Asn Val Ile Ser Phe Ser Asn Asp Arg		
2150	2155	2160
Phe Thr Phe His Ala Asn Arg Thr Leu Ser Ile His Lys Val Lys		
2165	2170	2175
Pro Leu Asp Ser Gly Asp Tyr Val Cys Val Ala Gln Asn Pro Ser		
2180	2185	2190
Gly Asp Asp Thr Lys Thr Tyr Lys Leu Asp Ile Val Ser Lys Pro		
2195	2200	2205
Pro Leu Ile Asn Gly Leu Tyr Ala Asn Lys Thr Val Ile Lys Ala		
2210	2215	2220
Thr Ala Ile Arg His Ser Lys Lys Tyr Phe Asp Cys Arg Ala Asp		
2225	2230	2235
Gly Ile Pro Ser Ser Gln Val Thr Trp Ile Met Pro Gly Asn Ile		
2240	2245	2250
Phe Leu Pro Ala Pro Tyr Phe Gly Ser Arg Val Thr Val His Pro		
2255	2260	2265
Asn Gly Thr Leu Glu Met Arg Asn Ile Arg Leu Ser Asp Ser Ala		
2270	2275	2280
Asp Phe Thr Cys Val Val Arg Ser Glu Gly Gly Glu Ser Val Leu		
2285	2290	2295
Val Val Gln Leu Glu Val Leu Glu Met Leu Arg Arg Pro Thr Phe		
2300	2305	2310
Arg Asn Pro Phe Asn Glu Lys Val Ile Ala Gln Ala Gly Lys Pro		
2315	2320	2325
Val Ala Leu Asn Cys Ser Val Asp Gly Asn Pro Pro Pro Glu Ile		
2330	2335	2340
Thr Trp Ile Leu Pro Asp Gly Thr Gln Phe Ala Asn Arg Pro His		
2345	2350	2355
Asn Ser Pro Tyr Leu Met Ala Gly Asn Gly Ser Leu Ile Leu Tyr		
2360	2365	2370
Lys Ala Thr Arg Asn Lys Ser Gly Lys Tyr Arg Cys Ala Ala Arg		
2375	2380	2385
Asn Lys Val Gly Tyr Ile Glu Lys Leu Ile Leu Leu Glu Ile Gly		

Gln Lys Pro Val Ile Leu Thr Tyr Glu Pro Gly Met Val Lys Ser		
2405	2410	2415
Val Ser Gly Glu Pro Leu Ser Leu His Cys Val Ser Asp Gly Ile		
2420	2425	2430
Pro Lys Pro Asn Val Lys Trp Thr Thr Pro Gly Gly His Val Ile		
2435	2440	2445
Asp Arg Pro Gln Val Asp Gly Lys Tyr Ile Leu His Glu Asn Gly		
2450	2455	2460
Thr Leu Val Ile Lys Ala Thr Thr Ala His Asp Gln Gly Asn Tyr		
2465	2470	2475
Ile Cys Arg Ala Gln Asn Ser Val Gly Gln Ala Val Ile Ser Val		
2480	2485	2490
Ser Val Met Val Val Ala Tyr Pro Pro Arg Ile Ile Asn Tyr Leu		
2495	2500	2505
Pro Arg Asn Met Leu Arg Arg Thr Gly Glu Ala Met Gln Leu His		
2510	2515	2520
Cys Val Ala Leu Gly Ile Pro Lys Pro Lys Val Thr Trp Glu Thr		
2525	2530	2535
Pro Arg His Ser Leu Leu Ser Lys Ala Thr Ala Arg Lys Pro His		
2540	2545	2550
Arg Ser Glu Met Leu His Pro Gln Gly Thr Leu Val Ile Gln Asn		
2555	2560	2565
Leu Gln Thr Ser Asp Ser Gly Val Tyr Lys Cys Arg Ala Gln Asn		
2570	2575	2580
Leu Leu Gly Thr Asp Tyr Ala Thr Thr Tyr Ile Gln Val Leu		
2585	2590	2595

<210> 11  
 <211> 2586  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(2586)  
 <223> 'x' can be any amino acid

<400> 11

Met Lys Val Lys Gly Arg Gly Ile Thr Cys Leu Leu Val Ser Phe Ala
1 5 10 15

Val	Ile	Cys	Leu	Val	Ala	Thr	Pro	Gly	Gly	Lys	Ala	Cys	Pro	Arg	Arg		
			20					25					30				
Cys	Ala	Cys	Tyr	Met	Pro	Thr	Glu	Val	His	Cys	Thr	Phe	Arg	Tyr	Leu		
		35					40					45					
Thr	Ser	Ile	Pro	Asp	Ser	Ile	Pro	Pro	Asn	Val	Glu	Arg	Ile	Asn	Leu		
	50					55					60						
Gly	Tyr	Asn	Ser	Leu	Val	Arg	Leu	Met	Glu	Thr	Asp	Phe	Ser	Gly	Leu		
65				70						75					80		
Thr	Lys	Leu	Glu	Leu	Leu	Met	Leu	His	Ser	Asn	Gly	Ile	His	Thr	Ile		
				85					90					95			
Pro	Asp	Lys	Thr	Phe	Ser	Asp	Leu	Gln	Ala	Leu	Gln	Val	Leu	Lys	Met		
			100					105					110				
Ser	Tyr	Asn	Lys	Val	Arg	Lys	Leu	Gln	Lys	Asp	Thr	Phe	Tyr	Gly	Leu		
		115					120					125					
Arg	Ser	Leu	Thr	Arg	Leu	His	Met	Asp	His	Asn	Asn	Ile	Glu	Phe	Ile		
	130					135					140						
Asn	Pro	Glu	Val	Phe	Tyr	Gly	Leu	Asn	Phe	Leu	Arg	Leu	Val	His	Leu		
145					150				155						160		
Glu	Gly	Asn	Gln	Leu	Thr	Lys	Leu	His	Pro	Asp	Thr	Phe	Val	Ser	Leu		
				165					170					175			
Ser	Tyr	Leu	Gln	Ile	Phe	Lys	Ile	Ser	Phe	Ile	Lys	Phe	Leu	Tyr	Leu		
		180						185					190				
Ser	Asp	Asn	Phe	Leu	Thr	Ser	Leu	Pro	Gln	Glu	Met	Val	Ser	Tyr	Met		
		195					200					205					
Pro	Asp	Leu	Asp	Ser	Leu	Tyr	Leu	His	Gly	Asn	Pro	Trp	Thr	Cys	Asp		
	210					215					220						
Cys	His	Leu	Lys	Trp	Leu	Ser	Asp	Trp	Ile	Gln	Pro	Asp	Val	Ile	Lys		
225					230					235					240		
Cys	Lys	Lys	Asp	Arg	Ser	Pro	Ser	Ser	Ala	Gln	Gln	Cys	Pro	Leu	Cys		
				245					250					255			
Met	Asn	Pro	Arg	Thr	Ser	Lys	Gly	Lys	Pro	Leu	Ala	Met	Val	Ser	Ala		
			260					265						270			
Ala	Ala	Phe	Gln	Cys	Ala	Lys	Pro	Thr	Ile	Asp	Ser	Ser	Leu	Lys	Ser		
		275					280					285					
Lys	Ser	Leu	Thr	Ile	Leu	Glu	Asp	Ser	Ser	Ser	Ala	Phe	Ile	Ser	Pro		
	290					295					300						
Gln	Gly	Phe	Met	Ala	Pro	Phe	Gly	Ser	Leu	Thr	Leu	Asn	Met	Thr	Asp		
305					310					315					320		







Val	Asn	Val	Lys	Met	Leu	Ser	Ser	Thr	Thr	Asn	Lys	Leu	Leu	Leu	Glu
930										935					940
Ser	Val	Asn	Thr	Thr	Asn	Ser	His	Gln	Thr	Ser	Val	Arg	Glu	Val	Ser
945					950					955					960
Glu	Pro	Arg	His	Asn	His	Phe	Tyr	Ser	His	Thr	Thr	Gln	Ile	Leu	Ser
				965					970					975	
Thr	Ser	Thr	Phe	Pro	Ser	Asp	Pro	His	Thr	Ala	Ala	His	Ser	Gln	Phe
			980					985					990		
Pro	Ile	Pro	Arg	Asn	Ser	Thr	Val	Asn	Ile	Pro	Leu	Phe	Arg	Arg	Phe
		995					1000					1005			
Gly	Arg	Gln	Arg	Lys	Ile	Gly	Gly	Arg	Gly	Arg	Ile	Ile	Ser	Pro	
1010						1015					1020				
Tyr	Arg	Thr	Pro	Val	Leu	Arg	Arg	His	Arg	Tyr	Ser	Ile	Phe	Arg	
1025						1030					1035				
Ser	Thr	Thr	Arg	Gly	Ser	Ser	Glu	Lys	Ser	Thr	Thr	Ala	Phe	Ser	
1040						1045					1050				
Ala	Thr	Val	Leu	Asn	Val	Thr	Cys	Leu	Ser	Cys	Leu	Pro	Arg	Glu	
1055						1060					1065				
Arg	Leu	Thr	Thr	Ala	Thr	Ala	Ala	Leu	Ser	Phe	Pro	Ser	Ala	Ala	
1070						1075					1080				
Pro	Ile	Thr	Phe	Pro	Lys	Ala	Asp	Ile	Ala	Arg	Val	Pro	Ser	Glu	
1085						1090					1095				
Glu	Ser	Thr	Thr	Leu	Val	Gln	Asn	Pro	Leu	Leu	Leu	Leu	Glu	Asn	
1100						1105					1110				
Lys	Pro	Ser	Val	Glu	Lys	Thr	Thr	Pro	Thr	Ile	Lys	Tyr	Phe	Arg	
1115						1120					1125				
Thr	Glu	Ile	Ser	Gln	Val	Thr	Pro	Thr	Gly	Ala	Val	Met	Thr	Tyr	
1130						1135					1140				
Ala	Pro	Thr	Ser	Ile	Pro	Met	Glu	Lys	Thr	His	Lys	Val	Asn	Ala	
1145						1150					1155				
Ser	Tyr	Pro	Arg	Val	Ser	Ser	Thr	Asn	Glu	Ala	Lys	Arg	Asp	Ser	
1160						1165					1170				
Val	Ile	Thr	Ser	Ser	Leu	Ser	Gly	Ala	Ile	Thr	Lys	Pro	Pro	Met	
1175						1180					1185				
Thr	Ile	Ile	Ala	Ile	Thr	Arg	Phe	Ser	Arg	Arg	Lys	Ile	Pro	Trp	
1190						1195					1200				
Gln	Gln	Asn	Phe	Val	Asn	Asn	His	Asn	Pro	Lys	Gly	Arg	Leu	Arg	
1205						1210					1215				

Asn	Gln	His	Lys	Val	Ser	Leu	Gln	Lys	Ser	Thr	Ala	Val	Met	Leu
1220						1225					1230			
Pro	Lys	Thr	Ser	Pro	Ala	Leu	Pro	Gln	Arg	Gln	Ser	Ser	Pro	Phe
1235						1240					1245			
His	Phe	Thr	Thr	Leu	Ser	Thr	Ser	Val	Met	Gln	Ile	Pro	Ser	Asn
1250						1255					1260			
Thr	Leu	Thr	Thr	Ala	His	His	Thr	Thr	Thr	Lys	Thr	His	Asn	Pro
1265						1270					1275			
Gly	Ser	Leu	Pro	Thr	Lys	Lys	Glu	Leu	Pro	Phe	Pro	Pro	Leu	Asn
1280						1285					1290			
Pro	Met	Leu	Pro	Ser	Ile	Ile	Ser	Lys	Asp	Ser	Ser	Thr	Lys	Ser
1295						1300					1305			
Ile	Ile	Ser	Thr	Gln	Thr	Ala	Ile	Pro	Ala	Thr	Thr	Pro	Thr	Phe
1310						1315					1320			
Pro	Ala	Ser	Val	Ile	Thr	Tyr	Glu	Thr	Gln	Thr	Glu	Arg	Ser	Arg
1325						1330					1335			
Ala	Gln	Thr	Ile	Gln	Arg	Glu	Gln	Glu	Pro	Gln	Lys	Lys	Asn	Arg
1340						1345					1350			
Thr	Asp	Pro	Asn	Ile	Ser	Pro	Asp	Gln	Ser	Ser	Gly	Phe	Thr	Thr
1355						1360					1365			
Pro	Thr	Ala	Met	Thr	Pro	Pro	Ala	Leu	Ala	Phe	Thr	His	Ser	Pro
1370						1375					1380			
Pro	Glu	Asn	Thr	Thr	Gly	Ile	Ser	Ser	Thr	Ile	Ser	Phe	His	Ser
1385						1390					1395			
Arg	Thr	Leu	Asn	Leu	Thr	Asp	Val	Ile	Glu	Glu	Leu	Ala	Gln	Ala
1400						1405					1410			
Ser	Thr	Gln	Thr	Leu	Lys	Ser	Thr	Ile	Ala	Ser	Glu	Thr	Thr	Leu
1415						1420					1425			
Ser	Ser	Lys	Ser	His	Gln	Ser	Thr	Thr	Thr	Arg	Lys	Ala	Ser	Leu
1430						1435					1440			
Asp	Thr	Pro	Ile	Pro	Pro	Phe	Leu	Ser	Ser	Ser	Ala	Thr	Leu	Met
1445						1450					1455			
Pro	Val	Pro	Ile	Ser	Pro	Pro	Phe	Thr	Gln	Arg	Ala	Val	Thr	Asp
1460						1465					1470			
Thr	Arg	Gly	Asp	Ser	His	Phe	Arg	Leu	Met	Thr	Asn	Thr	Val	Val
1475						1480					1485			
Lys	Leu	His	Glu	Ser	Ser	Arg	His	Asn	Leu	Gln	Met	Pro	Ser	Ser
1490						1495					1500			

Gln	Leu	Glu	Pro	Leu	Thr	Ser	Ser	Thr	Ser	Asn	Leu	Leu	His	Ser
1505						1510					1515			
Thr	Pro	Met	Pro	Ala	Leu	Thr	Thr	Val	Lys	Ser	Gln	Asn	Ser	Lys
1520						1525					1530			
Leu	Thr	Pro	Ser	Pro	Trp	Ala	Glu	Tyr	Gln	Phe	Trp	His	Lys	Pro
1535						1540					1545			
Tyr	Ser	Asp	Ile	Ala	Glu	Lys	Gly	Lys	Lys	Pro	Glu	Val	Ser	Met
1550						1555					1560			
Leu	Ala	Thr	Thr	Gly	Leu	Ser	Glu	Ala	Thr	Thr	Leu	Val	Ser	Asp
1565						1570					1575			
Trp	Asp	Gly	Gln	Lys	Asn	Thr	Lys	Lys	Ser	Asp	Phe	Asp	Lys	Lys
1580						1585					1590			
Pro	Val	Gln	Glu	Ala	Thr	Thr	Ser	Lys	Leu	Leu	Pro	Phe	Asp	Ser
1595						1600					1605			
Leu	Ser	Arg	Tyr	Ile	Phe	Glu	Lys	Pro	Arg	Ile	Val	Gly	Gly	Lys
1610						1615					1620			
Ala	Ala	Ser	Phe	Thr	Ile	Pro	Ala	Asn	Ser	Asp	Ala	Phe	Leu	Pro
1625						1630					1635			
Cys	Glu	Ala	Val	Gly	Asn	Pro	Leu	Pro	Thr	Ile	His	Trp	Thr	Arg
1640						1645					1650			
Val	Ser	Gly	Leu	Asp	Leu	Ser	Arg	Gly	Asn	Gln	Asn	Ser	Arg	Val
1655						1660					1665			
Gln	Val	Leu	Pro	Asn	Gly	Thr	Leu	Ser	Ile	Gln	Arg	Val	Glu	Ile
1670						1675					1680			
Gln	Asp	Arg	Gly	Gln	Tyr	Leu	Cys	Ser	Ala	Ser	Asn	Leu	Phe	Gly
1685						1690					1695			
Thr	Asp	His	Leu	His	Val	Thr	Leu	Ser	Val	Val	Ser	Tyr	Pro	Pro
1700						1705					1710			
Arg	Ile	Leu	Glu	Arg	Arg	Thr	Lys	Glu	Ile	Thr	Val	His	Ser	Gly
1715						1720					1725			
Ser	Thr	Val	Glu	Leu	Lys	Cys	Arg	Ala	Glu	Gly	Arg	Pro	Ser	Pro
1730						1735					1740			
Thr	Val	Thr	Trp	Ile	Leu	Ala	Asn	Gln	Thr	Val	Val	Ser	Glu	Ser
1745						1750					1755			
Ser	Gln	Gly	Ser	Arg	Gln	Ala	Val	Val	Thr	Val	Asp	Gly	Thr	Leu
1760						1765					1770			
Val	Leu	His	Asn	Leu	Ser	Ile	Tyr	Asp	Arg	Gly	Phe	Tyr	Lys	Cys
1775						1780					1785			

Val Ala	Ser Asn Pro Gly Gly	Gln Asp Ser Leu Leu	Val Lys Ile
1790	1795	1800	
Gln Val	Ile Ala Ala Pro Pro	Val Ile Leu Glu Gln	Arg Arg Gln
1805	1810	1815	
Val Ile	Val Gly Thr Trp Gly	Glu Ser Leu Lys Leu	Pro Cys Thr
1820	1825	1830	
Ala Lys	Gly Thr Pro Gln Pro	Ser Val Tyr Trp Val	Leu Ser Asp
1835	1840	1845	
Gly Thr	Glu Val Lys Pro Leu	Gln Phe Thr Asn Ser	Lys Leu Phe
1850	1855	1860	
Leu Phe	Ser Asn Gly Thr Leu	Tyr Ile Arg Asn Leu	Ala Ser Ser
1865	1870	1875	
Asp Arg	Gly Thr Tyr Glu Cys	Ile Ala Thr Ser Ser	Thr Gly Ser
1880	1885	1890	
Glu Arg	Arg Val Val Met Leu	Thr Met Glu Glu Arg	Val Thr Ser
1895	1900	1905	
Pro Arg	Ile Glu Ala Ala Ser	Gln Lys Arg Thr Glu	Val Asn Phe
1910	1915	1920	
Gly Asp	Lys Leu Leu Leu Asn	Cys Ser Ala Thr Gly	Glu Pro Lys
1925	1930	1935	
Pro Gln	Ile Met Trp Arg Leu	Pro Ser Lys Ala Val	Val Asp Gln
1940	1945	1950	
Gly Ser	Trp Ile His Val Tyr	Pro Asn Gly Ser Leu	Phe Ile Gly
1955	1960	1965	
Ser Val	Thr Glu Lys Asp Ser	Gly Val Tyr Leu Cys	Val Ala Arg
1970	1975	1980	
Asn Lys	Met Gly Asp Asp Leu	Ile Leu Met His Val	Ser Leu Arg
1985	1990	1995	
Leu Lys	Pro Ala Lys Ile Asp	His Lys Gln Tyr Phe	Arg Lys Gln
2000	2005	2010	
Val Leu	His Gly Lys Asp Phe	Gln Val Asp Cys Lys	Ala Ser Gly
2015	2020	2025	
Ser Pro	Val Pro Glu Ile Ser	Trp Ser Leu Pro Asp	Gly Thr Met
2030	2035	2040	
Ile Asn	Asn Ala Met Gln Ala	Asp Asp Ser Gly His	Arg Thr Arg
2045	2050	2055	
Arg Tyr	Thr Leu Phe Asn Asn	Gly Thr Leu Tyr Phe	Asn Lys Val
2060	2065	2070	

Gly Val 2075	Ala Glu Glu Gly Asp 2080	Tyr Thr Cys Tyr Ala 2085	Gln Asn Thr
Leu Gly 2090	Lys Asp Glu Met Lys 2095	Val His Leu Thr Val 2100	Ile Thr Ala
Ala Pro 2105	Arg Ile Arg Gln Ser 2110	Asn Lys Thr Asn Lys 2115	Arg Ile Lys
Ala Gly 2120	Asp Thr Ala Val Leu 2125	Asp Cys Glu Val Thr 2130	Gly Asp Pro
Lys Pro 2135	Lys Ile Phe Trp Leu 2140	Leu Pro Ser Asn Asp 2145	Met Ile Ser
Phe Ser 2150	Ile Asp Arg Tyr Thr 2155	Phe His Ala Asn Gly 2160	Ser Leu Thr
Ile Asn 2165	Lys Val Lys Leu Leu 2170	Asp Ser Gly Glu Tyr 2175	Val Cys Val
Ala Arg 2180	Asn Pro Ser Gly Asp 2185	Asp Thr Lys Met Tyr 2190	Lys Leu Asp
Val Val 2195	Ser Lys Pro Pro Leu 2200	Ile Asn Gly Leu Tyr 2205	Thr Asn Arg
Thr Val 2210	Ile Lys Ala Thr Ala 2215	Val Arg His Ser Lys 2220	Lys His Phe
Asp Cys 2225	Arg Ala Glu Gly Thr 2230	Pro Ser Pro Glu Val 2235	Met Trp Ile
Met Pro 2240	Asp Asn Ile Phe Leu 2245	Thr Ala Pro Tyr Tyr 2250	Gly Ser Arg
Ile Thr 2255	Val His Lys Asn Gly 2260	Thr Leu Glu Ile Arg 2265	Asn Val Arg
Leu Ser 2270	Asp Ser Ala Asp Phe 2275	Ile Cys Val Ala Arg 2280	Asn Glu Gly
Gly Glu 2285	Ser Val Leu Val Val 2290	Gln Leu Glu Val Leu 2295	Glu Met Leu
Arg Arg 2300	Pro Thr Phe Arg Asn 2305	Pro Phe Asn Glu Lys 2310	Ile Val Ala
Gln Leu 2315	Gly Lys Ser Thr Ala 2320	Leu Asn Cys Ser Val 2325	Asp Gly Asn
Pro Pro 2330	Pro Glu Ile Ile Trp 2335	Ile Leu Pro Asn Gly 2340	Thr Arg Phe
Ser Asn 2345	Gly Pro Gln Ser Tyr 2350	Gln Tyr Leu Ile Ala 2355	Ser Asn Gly

Ser	Phe	Ile	Ile	Ser	Lys	Thr	Thr	Arg	Glu	Asp	Ala	Gly	Lys	Tyr
2360						2365					2370			
Arg	Cys	Ala	Ala	Arg	Asn	Lys	Val	Gly	Tyr	Ile	Glu	Lys	Leu	Val
2375						2380					2385			
Ile	Leu	Glu	Ile	Gly	Gln	Lys	Pro	Val	Ile	Leu	Thr	Tyr	Ala	Pro
2390						2395					2400			
Gly	Thr	Val	Lys	Gly	Ile	Ser	Gly	Glu	Ser	Leu	Ser	Leu	His	Cys
2405						2410					2415			
Val	Ser	Asp	Gly	Ile	Pro	Lys	Pro	Asn	Ile	Lys	Trp	Thr	Met	Pro
2420						2425					2430			
Ser	Gly	Tyr	Val	Val	Asp	Arg	Pro	Gln	Ile	Asn	Gly	Lys	Tyr	Ile
2435						2440					2445			
Leu	His	Asp	Asn	Gly	Thr	Leu	Val	Ile	Lys	Glu	Ala	Thr	Ala	Tyr
2450						2455					2460			
Asp	Arg	Gly	Asn	Tyr	Ile	Cys	Lys	Ala	Gln	Asn	Ser	Val	Gly	His
2465						2470					2475			
Thr	Leu	Ile	Thr	Val	Pro	Val	Met	Ile	Val	Ala	Tyr	Pro	Pro	Arg
2480						2485					2490			
Ile	Thr	Asn	Arg	Pro	Pro	Arg	Ser	Ile	Val	Thr	Arg	Thr	Gly	Ala
2495						2500					2505			
Ala	Phe	Gln	Leu	His	Cys	Val	Ala	Leu	Gly	Val	Pro	Lys	Pro	Glu
2510						2515					2520			
Ile	Thr	Trp	Glu	Met	Pro	Asp	His	Ser	Leu	Leu	Ser	Thr	Ala	Ser
2525						2530					2535			
Lys	Glu	Arg	Thr	His	Gly	Ser	Glu	Gln	Leu	His	Leu	Gln	Gly	Thr
2540						2545					2550			
Leu	Val	Ile	Gln	Asn	Pro	Gln	Thr	Ser	Asp	Ser	Gly	Ile	Tyr	Lys
2555						2560					2565			
Cys	Thr	Ala	Lys	Asn	Pro	Leu	Gly	Ser	Asp	Tyr	Ala	Ala	Thr	Tyr
2570						2575					2580			
Ile	Gln	Val												
2585														

<210> 12  
 <211> 236  
 <212> PRT  
 <213> Mus musculus  
  
 <220>  
 <221> misc\_feature  
 <222> (1)..(236)  
 <223> 'x' can be any amino acid



<400> 12

Met Gln Lys Arg Gly Arg Glu Val Ser Cys Leu Leu Ile Ser Leu Thr  
1 5 10 15  
Ala Ile Cys Leu Val Val Thr Pro Gly Ser Arg Val Cys Pro Arg Arg  
20 25 30  
Cys Ala Cys Tyr Val Pro Thr Glu Val His Cys Thr Phe Arg Asp Leu  
35 40 45  
Thr Ser Ile Pro Asp Gly Pro Ala Asn Val Glu Arg Val Asn Leu Gly  
50 55 60  
Tyr Asn Ser Leu Thr Arg Leu Thr Glu Asn Asp Phe Ser Gly Leu Ser  
65 70 75 80  
Arg Leu Glu Leu Leu Met Leu His Ser Asn Gly Ile His Arg Val Ser  
85 90 95  
Asp Lys Thr Phe Ser Gly Leu Gln Ser Leu Gln Val Leu Lys Met Ser  
100 105 110  
Tyr Asn Lys Val Gln Ile Ile Glu Lys Asp Thr Leu Tyr Gly Leu Arg  
115 120 125  
Ser Leu Thr Arg Leu His Leu Asp His Asn Asn Ile Glu Phe Ile Asn  
130 135 140  
Pro Glu Ala Phe Tyr Gly Leu Thr Leu Leu Arg Leu Val His Leu Glu  
145 150 155 160  
Gly Asn Arg Leu Thr Lys Leu His Pro Asp Thr Phe Val Ser Leu Ser  
165 170 175  
Tyr Leu Gln Ile Phe Lys Thr Ser Phe Ile Lys Xaa Leu Tyr Leu Tyr  
180 185 190  
Asp Asn Phe Thr Ser Leu Pro Lys Glu Met Val Ser Ser Met Pro Asn  
195 200 205  
Leu Glu Ser Leu Tyr Leu His Gly Asn Pro Trp Thr Cys Asp Cys His  
210 215 220  
Leu Lys Trp Leu Ser Glu Trp Met Gln Gly Asn Pro  
225 230 235

<210> 13

<211> 2597

<212> PRT

<213> Rattus species

<220>

<221> misc\_feature

<222> (1)..(2597)

<223> 'x' can be any amino acid

<400> 13

Met Gln Val Arg Gly Arg Glu Val Ser Gly Leu Leu Ile Ser Leu Thr  
1 5 10 15

Ala Val Cys Leu Val Val Thr Pro Gly Ser Arg Ala Cys Pro Arg Arg  
20 25 30

Cys Ala Cys Tyr Val Pro Thr Glu Val His Cys Thr Phe Arg Tyr Leu  
35 40 45

Thr Ser Ile Pro Asp Gly Ile Pro Ala Asn Val Glu Arg Ile Asn Leu  
50 55 60

Gly Tyr Asn Ser Leu Thr Arg Leu Thr Glu Asn Asp Phe Asp Gly Leu  
65 70 75 80

Ser Lys Leu Glu Leu Leu Met Leu His Ser Asn Gly Ile His Arg Val  
85 90 95

Ser Asp Lys Thr Phe Ser Gly Leu Gln Ser Leu Gln Val Leu Lys Met  
100 105 110

Ser Tyr Asn Lys Val Gln Ile Ile Arg Lys Asp Thr Phe Tyr Gly Leu  
115 120 125

Gly Ser Leu Val Arg Leu His Leu Asp His Asn Asn Ile Glu Phe Ile  
130 135 140

Asn Pro Glu Ala Phe Tyr Gly Leu Thr Ser Leu Arg Leu Val His Leu  
145 150 155 160

Glu Gly Asn Arg Leu Thr Lys Leu His Pro Asp Thr Phe Val Ser Leu  
165 170 175

Ser Tyr Leu Gln Ile Phe Lys Thr Ser Phe Ile Lys Tyr Leu Phe Leu  
180 185 190

Ser Asp Asn Phe Leu Thr Ser Leu Pro Lys Glu Met Val Ser Tyr Met  
195 200 205

Pro Asn Leu Glu Ser Leu Tyr Leu His Gly Asn Pro Trp Thr Cys Asp  
210 215 220

Cys His Leu Lys Trp Leu Ser Glu Trp Met Gln Gly Asn Pro Asp Ile  
225 230 235 240

Ile Lys Cys Lys Lys Asp Arg Ser Ser Ser Ser Pro Gln Gln Cys Pro  
245 250 255

Leu Cys Met Asn Pro Arg Ile Ser Lys Gly Arg Pro Phe Ala Met Val  
260 265 270

Pro Ser Gly Ala Phe Leu Cys Thr Lys Pro Thr Ile Asp Pro Ser Leu

275	280	285
Lys Ser Lys Ser Leu Val Thr Gln Glu Asp Asn Gly Ser Ala Ser Thr		
290	295	300
Ser Pro Gln Asp Phe Ile Glu Pro Phe Gly Ser Leu Ser Leu Asn Met		
305	310	315 320
Thr Xaa Xaa Ser Gly Asn Lys Ala Asp Met Val Cys Ser Ile Gln Lys		
	325	330 335
Pro Ser Arg Thr Ser Pro Thr Ala Phe Thr Glu Glu Asn Asp Tyr Ile		
	340	345 350
Met Leu Asn Ala Ser Phe Ser Thr Asn Leu Val Cys Ser Val Asp Tyr		
	355	360 365
Asn His Ile Gln Pro Val Trp Gln Leu Leu Ala Leu Tyr Ser Asp Ser		
	370	375 380
Pro Leu Ile Leu Glu Arg Lys Pro Gln Leu Thr Glu Thr Pro Ser Leu		
	385	390 395 400
Ser Ser Arg Tyr Lys Gln Val Ala Leu Arg Pro Glu Asp Ile Phe Thr		
	405	410 415
Ser Ile Glu Ala Asp Val Arg Ala Asp Pro Phe Trp Phe Gln Gln Glu		
	420	425 430
Lys Ile Val Leu Gln Leu Asn Arg Thr Ala Thr Thr Leu Ser Thr Leu		
	435	440 445
Gln Ile Gln Phe Ser Thr Asp Ala Gln Ile Ala Leu Pro Arg Ala Glu		
	450	455 460
Met Arg Ala Glu Arg Leu Lys Trp Thr Met Ile Leu Met Met Asn Asn		
	465	470 475 480
Pro Lys Leu Glu Arg Thr Val Leu Val Gly Gly Thr Ile Ala Leu Ser		
	485	490 495
Cys Pro Gly Lys Gly Asp Pro Ser Pro His Leu Glu Trp Leu Leu Ala		
	500	505 510
Asp Gly Ser Lys Val Arg Ala Pro Tyr Val Ser Glu Asp Gly Arg Ile		
	515	520 525
Leu Ile Asp Lys Asn Gly Lys Leu Glu Leu Gln Met Ala Asp Ser Phe		
	530	535 540
Asp Ala Gly Leu Tyr His Cys Ile Ser Thr Asn Asp Ala Asp Ala Asp		
	545	550 555 560
Val Leu Thr Tyr Arg Ile Thr Val Val Glu Pro Tyr Gly Glu Ser Thr		
	565	570 575
His Asp Ser Gly Val Gln His Thr Val Val Thr Gly Glu Thr Leu Asp		



885					890					895					
Ala	Glu	Ile	Arg	Asp	Ser	Ala	Gln	Ala	Gly	Arg	Ala	Ser	Ser	Gln	Ser
			900						905					910	
Ala	His	Pro	Val	Thr	Gly	Gly	Asn	Met	Ala	Thr	Tyr	Gly	His	Thr	Asn
		915					920					925			
Thr	Tyr	Ser	Ser	Phe	Thr	Ser	Lys	Ala	Ser	Thr	Val	Leu	Gln	Pro	Ile
	930						935					940			
Asn	Pro	Thr	Glu	Ser	Tyr	Gly	Pro	Gln	Ile	Pro	Ile	Thr	Gly	Val	Ser
945						950					955				960
Arg	Pro	Ser	Ser	Ser	Asp	Ile	Ser	Ser	His	Thr	Thr	Ala	Asp	Pro	Ser
				965					970					975	
Phe	Ser	Ser	His	Pro	Ser	Gly	Ser	His	Thr	Thr	Ala	Ser	Ser	Leu	Phe
			980					985						990	
His	Ile	Pro	Arg	Asn	Asn	Asn	Thr	Gly	Asn	Phe	Pro	Leu	Ser	Arg	His
		995					1000					1005			
Leu	Gly	Arg	Glu	Arg	Thr	Ile	Trp	Ser	Arg	Gly	Arg	Val	Lys	Asn	
	1010					1015					1020				
Pro	His	Arg	Thr	Pro	Val	Leu	Arg	Arg	His	Arg	His	Arg	Thr	Val	
	1025					1030					1035				
Arg	Pro	Ala	Ile	Lys	Gly	Pro	Ala	Asn	Lys	Asn	Val	Ser	Gln	Val	
	1040					1045					1050				
Pro	Ala	Thr	Glu	Tyr	Pro	Gly	Met	Cys	His	Thr	Cys	Pro	Ser	Ala	
	1055					1060					1065				
Glu	Gly	Leu	Thr	Val	Ala	Thr	Ala	Ala	Leu	Ser	Val	Pro	Ser	Ser	
	1070					1075					1080				
Ser	His	Ser	Ala	Leu	Pro	Lys	Thr	Asn	Asn	Val	Gly	Val	Ile	Ala	
	1085					1090					1095				
Glu	Glu	Ser	Thr	Thr	Val	Val	Lys	Lys	Pro	Leu	Leu	Leu	Phe	Lys	
	1100					1105					1110				
Asp	Lys	Gln	Asn	Val	Asp	Ile	Glu	Ile	Ile	Thr	Thr	Thr	Thr	Lys	
	1115					1120					1125				
Tyr	Ser	Gly	Gly	Glu	Ser	Asn	His	Val	Ile	Pro	Thr	Glu	Ala	Ser	
	1130					1135					1140				
Met	Thr	Ser	Ala	Pro	Thr	Ser	Val	Ser	Leu	Gly	Lys	Ser	Pro	Val	
	1145					1150					1155				
Asp	Asn	Ser	Gly	His	Leu	Ser	Met	Pro	Gly	Thr	Ile	Gln	Thr	Gly	
	1160					1165					1170				
Lys	Asp	Ser	Val	Glu	Thr	Thr	Pro	Leu	Pro	Ser	Pro	Leu	Ser	Thr	

1175		1180		1185
Pro Ser Ile Pro Thr Ser Thr	Lys Phe Ser Lys Arg	Lys Thr Pro		
1190	1195	1200		
Leu His Gln Ile Phe Val Asn	Asn Gln Lys Lys Glu	Gly Met Leu		
1205	1210	1215		
Lys Asn Pro Tyr Gln Phe Gly	Leu Gln Lys Asn Pro	Ala Ala Lys		
1220	1225	1230		
Leu Pro Lys Ile Ala Pro Leu	Leu Pro Thr Gly Gln	Ser Ser Pro		
1235	1240	1245		
Ser Asp Ser Thr Thr Leu Leu	Thr Ser Pro Pro Pro	Ala Leu Ser		
1250	1255	1260		
Thr Thr Met Ala Ala Thr Gln	Asn Lys Gly Thr Glu	Val Val Ser		
1265	1270	1275		
Gly Ala Arg Ser Leu Ser Ala	Gly Lys Lys Gln Pro	Phe Thr Asn		
1280	1285	1290		
Ser Ser Pro Val Leu Pro Ser	Thr Ile Ser Lys Arg	Ser Asn Thr		
1295	1300	1305		
Leu Asn Phe Leu Ser Thr Glu	Thr Pro Thr Val Thr	Ser Pro Thr		
1310	1315	1320		
Ala Thr Ala Ser Val Ile Met	Ser Glu Thr Gln Arg	Thr Arg Ser		
1325	1330	1335		
Lys Glu Ala Lys Asp Gln Ile	Lys Gly Pro Arg Lys	Asn Arg Asn		
1340	1345	1350		
Asn Ala Asn Thr Thr Pro Arg	Gln Val Ser Gly Tyr	Ser Ala Tyr		
1355	1360	1365		
Ser Ala Leu Thr Thr Ala Asp	Thr Pro Leu Ala Phe	Ser His Ser		
1370	1375	1380		
Pro Arg Gln Asp Asp Gly Gly	Asn Val Ser Ala Val	Ala Tyr His		
1385	1390	1395		
Ser Thr Thr Ser Leu Leu Ala	Ile Thr Glu Leu Phe	Glu Lys Tyr		
1400	1405	1410		
Thr Gln Thr Leu Gly Asn Thr	Thr Ala Leu Glu Thr	Thr Leu Leu		
1415	1420	1425		
Ser Lys Ser Gln Glu Ser Thr	Thr Val Lys Arg Ala	Ser Asp Thr		
1430	1435	1440		
Pro Pro Pro Leu Leu Ser Ser	Gly Ala Pro Pro Val	Pro Thr Pro		
1445	1450	1455		
Ser Pro Pro Pro Phe Thr Lys	Gly Val Val Thr Asp	Ser Lys Val		

1460	1465	1470
Thr Ser Ala Phe Gln Met	Thr Ser Asn Arg Val	Val Thr Ile Tyr
1475	1480	1485
Glu Ser Ser Arg His Asn	Thr Asp Leu Gln Gln	Pro Ser Ala Glu
1490	1495	1500
Ala Ser Pro Asn Pro Glu	Ile Ile Thr Gly Thr	Thr Asp Ser Pro
1505	1510	1515
Ser Asn Leu Phe Pro Ser	Thr Ser Val Pro Ala	Leu Arg Val Asp
1520	1525	1530
Lys Pro Gln Asn Ser Lys	Trp Lys Pro Ser Pro	Trp Pro Glu His
1535	1540	1545
Lys Tyr Gln Leu Lys Ser	Tyr Ser Glu Thr Ile	Glu Lys Gly Lys
1550	1555	1560
Arg Pro Ala Val Ser Met	Ser Pro His Leu Ser	Leu Pro Glu Ala
1565	1570	1575
Ser Thr His Ala Ser His	Trp Asn Thr Gln Lys	His Ala Glu Lys
1580	1585	1590
Ser Val Phe Asp Lys Lys	Pro Gly Gln Asn Pro	Thr Ser Lys His
1595	1600	1605
Leu Pro Tyr Val Ser Leu	Pro Lys Thr Leu Leu	Lys Lys Pro Arg
1610	1615	1620
Ile Ile Gly Gly Lys Ala	Ala Ser Phe Thr Val	Pro Ala Asn Ser
1625	1630	1635
Asp Val Phe Leu Pro Cys	Glu Ala Val Gly Asp	Pro Leu Pro Ile
1640	1645	1650
Ile His Trp Thr Arg Val	Ser Ser Gly Xaa Glu	Ile Ser Gln Gly
1655	1660	1665
Thr Gln Lys Ser Arg Phe	His Val Leu Pro Asn	Gly Thr Leu Ser
1670	1675	1680
Ile Gln Arg Val Ser Ile	Gln Asp Arg Gly Gln	Tyr Leu Cys Ser
1685	1690	1695
Ala Phe Asn Pro Leu Gly	Val Asp His Phe His	Val Ser Leu Ser
1700	1705	1710
Val Val Phe Tyr Pro Ala	Arg Ile Leu Asp Arg	His Val Lys Glu
1715	1720	1725
Ile Thr Val His Phe Gly	Ser Thr Val Glu Leu	Lys Cys Arg Val
1730	1735	1740
Glu Gly Met Pro Arg Pro	Thr Val Ser Trp Ile	Leu Ala Asn Gln

1745 1750 1755

Thr Val	Val Ser Glu Thr	Ala Lys Gly Ser Arg	Lys Val Trp Val
1760		1765	1770
Thr Pro	Asp Gly Thr Leu	Ile Ile Tyr Asn Leu	Ser Leu Tyr Asp
1775		1780	1785
Arg Gly	Phe Tyr Lys Cys	Val Ala Ser Asn Pro	Ser Gly Gln Asp
1790		1795	1800
Ser Leu	Leu Val Lys Ile	Gln Val Ile Thr Ala	Pro Pro Val Ile
1805		1810	1815
Ile Glu	Gln Lys Arg Gln	Ala Ile Val Gly Val	Leu Gly Gly Ser
1820		1825	1830
Leu Lys	Leu Pro Cys Thr	Ala Lys Gly Thr Pro	Gln Pro Ser Val
1835		1840	1845
His Trp	Val Leu Tyr Asp	Gly Thr Glu Leu Lys	Pro Leu Gln Leu
1850		1855	1860
Thr His	Ser Arg Phe Phe	Leu Tyr Pro Asn Gly	Thr Leu Tyr Ile
1865		1870	1875
Arg Ser	Ile Ala Pro Ser	Val Arg Gly Thr Tyr	Glu Cys Ile Ala
1880		1885	1890
Thr Ser	Ser Ser Gly Ser	Glu Arg Arg Val Val	Ile Leu Thr Val
1895		1900	1905
Glu Glu	Gly Glu Thr Ile	Pro Arg Ile Glu Thr	Ala Ser Gln Lys
1910		1915	1920
Trp Thr	Glu Val Asn Leu	Gly Glu Lys Leu Leu	Leu Asn Cys Ser
1925		1930	1935
Ala Thr	Gly Asp Pro Lys	Pro Arg Ile Ile Trp	Arg Leu Pro Ser
1940		1945	1950
Lys Ala	Val Ile Asp Gln	Trp His Arg Met Gly	Ser Arg Ile His
1955		1960	1965
Val Tyr	Pro Asn Gly Ser	Leu Val Val Gly Ser	Val Thr Glu Lys
1970		1975	1980
Asp Ala	Gly Asp Tyr Leu	Cys Val Ala Arg Asn	Lys Met Gly Asp
1985		1990	1995
Asp Leu	Val Leu Met His	Val Arg Leu Arg Leu	Thr Pro Ala Lys
2000		2005	2010
Ile Glu	Gln Lys Gln Tyr	Phe Lys Lys Gln Val	Leu His Gly Lys
2015		2020	2025
Asp Phe	Gln Val Asp Cys	Lys Ala Ser Gly Ser	Pro Val Pro Glu



2030	2035	2040
Val Ser Trp Ser Leu Pro 2045	Asp Gly Thr Val Leu 2050	Asn Asn Val Ala 2055
Gln Ala Asp Asp Ser Gly 2060	Tyr Arg Thr Lys Arg 2065	Tyr Thr Leu Phe 2070
His Asn Gly Thr Leu Tyr 2075	Phe Asn Asn Val Gly 2080	Met Ala Glu Glu 2085
Gly Asp Tyr Ile Cys Ser 2090	Ala Gln Asn Thr Leu 2095	Gly Lys Asp Glu 2100
Met Lys Val His Leu Thr 2105	Val Leu Thr Ala Ile 2110	Pro Arg Ile Arg 2115
Gln Ser Tyr Lys Thr Thr 2120	Met Arg Leu Arg Ala 2125	Gly Glu Thr Ala 2130
Val Leu Asp Cys Glu Val 2135	Thr Gly Glu Pro Lys 2140	Pro Asn Val Phe 2145
Trp Leu Leu Pro Ser Asn 2150	Asn Val Ile Ser Phe 2155	Ser Asn Asp Arg 2160
Phe Thr Phe His Ala Asn 2165	Arg Thr Leu Ser Ile 2170	His Lys Val Lys 2175
Pro Leu Asp Ser Gly Asp 2180	Tyr Val Cys Val Ala 2185	Gln Asn Pro Ser 2190
Gly Asp Asp Thr Lys Thr 2195	Tyr Lys Leu Asp Ile 2200	Val Ser Lys Pro 2205
Pro Leu Ile Asn Gly Leu 2210	Tyr Ala Asn Lys Thr 2215	Val Ile Lys Ala 2220
Thr Ala Ile Arg His Ser 2225	Lys Lys Tyr Phe Asp 2230	Cys Arg Ala Asp 2235
Gly Ile Pro Ser Ser Gln 2240	Val Thr Trp Ile Met 2245	Pro Gly Asn Ile 2250
Phe Leu Pro Ala Pro Tyr 2255	Phe Gly Ser Arg Val 2260	Thr Val His Pro 2265
Asn Gly Thr Leu Glu Met 2270	Arg Asn Ile Arg Leu 2275	Ser Asp Ser Ala 2280
Asp Phe Thr Cys Val Val 2285	Arg Ser Glu Gly Gly 2290	Glu Ser Val Leu 2295
Val Val Gln Leu Glu Val 2300	Leu Glu Met Leu Arg 2305	Arg Pro Thr Phe 2310
Arg Asn Pro Phe Asn Glu Lys	Val Ile Ala Gln Ala	Gly Lys Pro

Val Ala Leu Asn Cys Ser	Val Asp Gly Asn Pro	Pro Pro Glu Ile
2330	2335	2340
Thr Trp Ile Leu Pro Asp	Gly Thr Gln Phe Ala	Asn Arg Pro His
2345	2350	2355
Asn Ser Pro Tyr Leu Met	Ala Gly Asn Gly Ser	Leu Ile Leu Tyr
2360	2365	2370
Lys Ala Thr Arg Asn Lys	Ser Gly Lys Tyr Arg	Cys Ala Ala Arg
2375	2380	2385
Asn Lys Val Gly Tyr Ile	Glu Lys Leu Ile Leu	Leu Glu Ile Gly
2390	2395	2400
Gln Lys Pro Val Ile Leu	Thr Tyr Glu Pro Gly	Met Val Lys Ser
2405	2410	2415
Val Ser Gly Glu Pro Leu	Ser Leu His Cys Val	Ser Asp Gly Ile
2420	2425	2430
Pro Lys Pro Asn Val Lys	Trp Thr Thr Pro Gly	Gly His Val Ile
2435	2440	2445
Asp Arg Pro Gln Val Asp	Gly Lys Tyr Ile Leu	His Glu Asn Gly
2450	2455	2460
Thr Leu Val Ile Lys Ala	Thr Thr Ala His Asp	Gln Gly Asn Tyr
2465	2470	2475
Ile Cys Arg Ala Gln Asn	Ser Val Gly Gln Ala	Val Ile Ser Val
2480	2485	2490
Ser Val Met Val Val Ala	Tyr Pro Pro Arg Ile	Ile Asn Tyr Leu
2495	2500	2505
Pro Arg Asn Met Leu Arg	Arg Thr Gly Glu Ala	Met Gln Leu His
2510	2515	2520
Cys Val Ala Leu Gly Ile	Pro Lys Pro Lys Val	Thr Trp Glu Thr
2525	2530	2535
Pro Arg His Ser Leu Leu	Ser Lys Ala Thr Ala	Arg Lys Pro His
2540	2545	2550
Arg Ser Glu Met Leu His	Pro Gln Gly Thr Leu	Val Ile Gln Asn
2555	2560	2565
Leu Gln Thr Ser Asp Ser	Gly Val Tyr Lys Cys	Arg Ala Gln Asn
2570	2575	2580
Leu Leu Gly Thr Asp Tyr	Ala Thr Thr Tyr Ile	Gln Val Leu
2585	2590	2595

<210> 14

<211> 2586  
 <212> PRT  
 <213> Homo sapiens

<400> 14

Met	Lys	Val	Lys	Gly	Arg	Gly	Ile	Thr	Cys	Leu	Leu	Val	Ser	Phe	Ala	
1				5					10					15		
Val	Ile	Cys	Leu	Val	Ala	Thr	Pro	Gly	Gly	Lys	Ala	Cys	Pro	Arg	Arg	
			20					25					30			
Cys	Ala	Cys	Tyr	Met	Pro	Thr	Glu	Val	His	Cys	Thr	Phe	Arg	Tyr	Leu	
		35					40					45				
Thr	Ser	Ile	Pro	Asp	Ser	Ile	Pro	Pro	Asn	Val	Glu	Arg	Ile	Asn	Leu	
		50				55					60					
Gly	Tyr	Asn	Ser	Leu	Val	Arg	Leu	Met	Glu	Thr	Asp	Phe	Ser	Gly	Leu	
65				70						75					80	
Thr	Lys	Leu	Glu	Leu	Leu	Met	Leu	His	Ser	Asn	Gly	Ile	His	Thr	Ile	
				85					90					95		
Pro	Asp	Lys	Thr	Phe	Ser	Asp	Leu	Gln	Ala	Leu	Gln	Val	Leu	Lys	Met	
			100					105					110			
Ser	Tyr	Asn	Lys	Val	Arg	Lys	Leu	Gln	Lys	Asp	Thr	Phe	Tyr	Gly	Leu	
		115					120					125				
Arg	Ser	Leu	Thr	Arg	Leu	His	Met	Asp	His	Asn	Asn	Ile	Glu	Phe	Ile	
		130				135					140					
Asn	Pro	Glu	Val	Phe	Tyr	Gly	Leu	Asn	Phe	Leu	Arg	Leu	Val	His	Leu	
145					150					155					160	
Glu	Gly	Asn	Gln	Leu	Thr	Lys	Leu	His	Pro	Asp	Thr	Phe	Val	Ser	Leu	
				165					170					175		
Ser	Tyr	Leu	Gln	Ile	Phe	Lys	Ile	Ser	Phe	Ile	Lys	Phe	Leu	Tyr	Leu	
			180					185					190			
Ser	Asp	Asn	Phe	Leu	Thr	Ser	Leu	Pro	Gln	Glu	Met	Val	Ser	Tyr	Met	
		195					200					205				
Pro	Asp	Leu	Asp	Ser	Leu	Tyr	Leu	His	Gly	Asn	Pro	Trp	Thr	Cys	Asp	
		210				215					220					
Cys	His	Leu	Lys	Trp	Leu	Ser	Asp	Trp	Ile	Gln	Pro	Asp	Val	Ile	Lys	
225					230					235					240	
Cys	Lys	Lys	Asp	Arg	Ser	Pro	Ser	Ser	Ala	Gln	Gln	Cys	Pro	Leu	Cys	
				245					250					255		
Met	Asn	Pro	Arg	Thr	Ser	Lys	Gly	Lys	Pro	Leu	Ala	Met	Val	Ser	Ala	
			260					265					270			

Ala Ala Phe Gln Cys Ala Lys Pro Thr Ile Asp Ser Ser Leu Lys Ser  
275 280 285

Lys Ser Leu Thr Ile Leu Glu Asp Ser Ser Ser Ala Phe Ile Ser Pro  
290 295 300

Gln Gly Phe Met Ala Pro Phe Gly Ser Leu Thr Leu Asn Met Thr Asp  
305 310 315 320

Gln Ser Gly Asn Glu Ala Asn Met Val Cys Ser Ile Gln Lys Pro Ser  
325 330 335

Arg Thr Ser Pro Ile Ala Phe Thr Glu Glu Asn Asp Tyr Ile Val Leu  
340 345 350

Asn Thr Ser Phe Ser Thr Phe Leu Val Cys Asn Ile Asp Tyr Gly His  
355 360 365

Ile Gln Pro Val Trp Gln Ile Leu Ala Leu Tyr Ser Asp Ser Pro Leu  
370 375 380

Ile Leu Glu Arg Ser His Leu Leu Ser Glu Thr Pro Gln Leu Tyr Tyr  
385 390 395 400

Lys Tyr Lys Gln Val Ala Pro Lys Pro Glu Asp Ile Phe Thr Asn Ile  
405 410 415

Glu Ala Asp Leu Arg Ala Asp Pro Ser Trp Leu Met Gln Asp Gln Ile  
420 425 430

Ser Leu Gln Leu Asn Arg Thr Ala Thr Thr Phe Ser Thr Leu Gln Ile  
435 440 445

Gln Tyr Ser Ser Asp Ala Gln Ile Thr Leu Pro Arg Ala Glu Met Arg  
450 455 460

Pro Val Lys His Lys Trp Thr Met Ile Ser Arg Asp Asn Asn Thr Lys  
465 470 475 480

Leu Glu His Thr Val Leu Val Gly Gly Thr Val Gly Leu Asn Cys Pro  
485 490 495

Gly Gln Gly Asp Pro Thr Pro His Val Asp Trp Leu Leu Ala Asp Gly  
500 505 510

Ser Lys Val Arg Ala Pro Tyr Val Ser Glu Asp Gly Arg Ile Leu Ile  
515 520 525

Asp Lys Ser Gly Lys Leu Glu Leu Gln Met Ala Asp Ser Phe Asp Thr  
530 535 540

Gly Val Tyr His Cys Ile Ser Ser Asn Tyr Asp Asp Ala Asp Ile Leu  
545 550 555 560

Thr Tyr Arg Ile Thr Val Val Glu Pro Leu Val Glu Ala Tyr Gln Glu  
565 570 575

Asn	Gly	Ile	His	His	Thr	Val	Phe	Ile	Gly	Glu	Thr	Leu	Asp	Leu	Pro		
			580					585					590				
Cys	His	Ser	Thr	Gly	Ile	Pro	Asp	Ala	Ser	Ile	Ser	Trp	Val	Ile	Pro		
		595					600					605					
Gly	Asn	Asn	Val	Leu	Tyr	Gln	Ser	Ser	Arg	Asp	Lys	Lys	Val	Leu	Asn		
	610					615					620						
Asn	Gly	Thr	Leu	Arg	Ile	Leu	Gln	Val	Thr	Pro	Lys	Asp	Gln	Gly	Tyr		
625					630					635					640		
Tyr	Arg	Cys	Val	Ala	Ala	Asn	Pro	Ser	Gly	Val	Asp	Phe	Leu	Ile	Phe		
				645					650					655			
Gln	Val	Ser	Val	Lys	Met	Lys	Gly	Gln	Arg	Pro	Leu	Glu	His	Asp	Gly		
			660					665						670			
Glu	Thr	Glu	Gly	Ser	Gly	Leu	Asp	Glu	Ser	Asn	Pro	Ile	Ala	His	Leu		
		675					680					685					
Lys	Glu	Pro	Pro	Gly	Ala	Gln	Leu	Arg	Thr	Ser	Ala	Leu	Met	Glu	Ala		
	690					695					700						
Glu	Val	Gly	Lys	His	Thr	Ser	Ser	Thr	Ser	Lys	Arg	His	Asn	Tyr	Arg		
705					710					715					720		
Glu	Leu	Thr	Leu	Gln	Arg	Arg	Gly	Asp	Ser	Thr	His	Arg	Arg	Phe	Arg		
				725				730						735			
Glu	Asn	Arg	Arg	His	Phe	Pro	Pro	Ser	Ala	Arg	Arg	Ile	Asp	Pro	Gln		
			740					745					750				
His	Trp	Ala	Ala	Leu	Leu	Glu	Lys	Ala	Lys	Lys	Asn	Ala	Met	Pro	Asp		
	755						760					765					
Lys	Arg	Glu	Asn	Thr	Thr	Val	Ser	Pro	Pro	Pro	Val	Val	Thr	Gln	Leu		
	770					775					780						
Pro	Asn	Ile	Pro	Gly	Glu	Glu	Asp	Asp	Ser	Ser	Gly	Met	Leu	Ala	Leu		
785					790					795					800		
His	Glu	Glu	Phe	Met	Val	Pro	Ala	Thr	Lys	Ala	Leu	Asn	Leu	Pro	Ala		
			805						810				815				
Arg	Thr	Val	Thr	Ala	Asp	Ser	Arg	Thr	Ile	Ser	Asp	Ser	Pro	Met	Thr		
			820					825					830				
Asn	Ile	Asn	Tyr	Gly	Thr	Glu	Phe	Ser	Pro	Val	Val	Asn	Ser	Gln	Ile		
	835						840					845					
Leu	Pro	Pro	Glu	Glu	Pro	Thr	Asp	Phe	Lys	Leu	Ser	Thr	Ala	Ile	Lys		
	850					855					860						
Thr	Thr	Ala	Met	Ser	Lys	Asn	Ile	Asn	Pro	Thr	Met	Ser	Ser	Gln	Ile		
865					870					875				880			

Gln Gly Thr Thr Asn Gln His Ser Ser Thr Val Phe Pro Leu Leu Leu  
 885 890 895

Gly Ala Thr Glu Phe Gln Asp Ser Asp Gln Met Gly Arg Gly Arg Glu  
 900 905 910

His Phe Gln Ser Arg Pro Pro Ile Thr Val Arg Thr Met Ile Lys Asp  
 915 920 925

Val Asn Val Lys Met Leu Ser Ser Thr Thr Asn Lys Leu Leu Leu Glu  
 930 935 940

Ser Val Asn Thr Thr Asn Ser His Gln Thr Ser Val Arg Glu Val Ser  
 945 950 955 960

Glu Pro Arg His Asn His Phe Tyr Ser His Thr Thr Gln Ile Leu Ser  
 965 970 975

Thr Ser Thr Phe Pro Ser Asp Pro His Thr Ala Ala His Ser Gln Phe  
 980 985 990

Pro Ile Pro Arg Asn Ser Thr Val Asn Ile Pro Leu Phe Arg Arg Phe  
 995 1000 1005

Gly Arg Gln Arg Lys Ile Gly Gly Arg Gly Arg Ile Ile Ser Pro  
 1010 1015 1020

Tyr Arg Thr Pro Val Leu Arg Arg His Arg Tyr Ser Ile Phe Arg  
 1025 1030 1035

Ser Thr Thr Arg Gly Ser Ser Glu Lys Ser Thr Thr Ala Phe Ser  
 1040 1045 1050

Ala Thr Val Leu Asn Val Thr Cys Leu Ser Cys Leu Pro Arg Glu  
 1055 1060 1065

Arg Leu Thr Thr Ala Thr Ala Ala Leu Ser Phe Pro Ser Ala Ala  
 1070 1075 1080

Pro Ile Thr Phe Pro Lys Ala Asp Ile Ala Arg Val Pro Ser Glu  
 1085 1090 1095

Glu Ser Thr Thr Leu Val Gln Asn Pro Leu Leu Leu Leu Glu Asn  
 1100 1105 1110

Lys Pro Ser Val Glu Lys Thr Thr Pro Thr Ile Lys Tyr Phe Arg  
 1115 1120 1125

Thr Glu Ile Ser Gln Val Thr Pro Thr Gly Ala Val Met Thr Tyr  
 1130 1135 1140

Ala Pro Thr Ser Ile Pro Met Glu Lys Thr His Lys Val Asn Ala  
 1145 1150 1155

Ser Tyr Pro Arg Val Ser Ser Thr Asn Glu Ala Lys Arg Asp Ser  
 1160 1165 1170

Val	Ile	Thr	Ser	Ser	Leu	Ser	Gly	Ala	Ile	Thr	Lys	Pro	Pro	Met
1175						1180					1185			
Thr	Ile	Ile	Ala	Ile	Thr	Arg	Phe	Ser	Arg	Arg	Lys	Ile	Pro	Trp
1190						1195					1200			
Gln	Gln	Asn	Phe	Val	Asn	Asn	His	Asn	Pro	Lys	Gly	Arg	Leu	Arg
1205						1210					1215			
Asn	Gln	His	Lys	Val	Ser	Leu	Gln	Lys	Ser	Thr	Ala	Val	Met	Leu
1220						1225					1230			
Pro	Lys	Thr	Ser	Pro	Ala	Leu	Pro	Gln	Arg	Gln	Ser	Ser	Pro	Phe
1235						1240					1245			
His	Phe	Thr	Thr	Leu	Ser	Thr	Ser	Val	Met	Gln	Ile	Pro	Ser	Asn
1250						1255					1260			
Thr	Leu	Thr	Thr	Ala	His	His	Thr	Thr	Thr	Lys	Thr	His	Asn	Pro
1265						1270					1275			
Gly	Ser	Leu	Pro	Thr	Lys	Lys	Glu	Leu	Pro	Phe	Pro	Pro	Leu	Asn
1280						1285					1290			
Pro	Met	Leu	Pro	Ser	Ile	Ile	Ser	Lys	Asp	Ser	Ser	Thr	Lys	Ser
1295						1300					1305			
Ile	Ile	Ser	Thr	Gln	Thr	Ala	Ile	Pro	Ala	Thr	Thr	Pro	Thr	Phe
1310						1315					1320			
Pro	Ala	Ser	Val	Ile	Thr	Tyr	Glu	Thr	Gln	Thr	Glu	Arg	Ser	Arg
1325						1330					1335			
Ala	Gln	Thr	Ile	Gln	Arg	Glu	Gln	Glu	Pro	Gln	Lys	Lys	Asn	Arg
1340						1345					1350			
Thr	Asp	Pro	Asn	Ile	Ser	Pro	Asp	Gln	Ser	Ser	Gly	Phe	Thr	Thr
1355						1360					1365			
Pro	Thr	Ala	Met	Thr	Pro	Pro	Ala	Leu	Ala	Phe	Thr	His	Ser	Pro
1370						1375					1380			
Pro	Glu	Asn	Thr	Thr	Gly	Ile	Ser	Ser	Thr	Ile	Ser	Phe	His	Ser
1385						1390					1395			
Arg	Thr	Leu	Asn	Leu	Thr	Asp	Val	Ile	Glu	Glu	Leu	Ala	Gln	Ala
1400						1405					1410			
Ser	Thr	Gln	Thr	Leu	Lys	Ser	Thr	Ile	Ala	Ser	Glu	Thr	Thr	Leu
1415						1420					1425			
Ser	Ser	Lys	Ser	His	Gln	Ser	Thr	Thr	Thr	Arg	Lys	Ala	Ser	Leu
1430						1435					1440			
Asp	Thr	Pro	Ile	Pro	Pro	Phe	Leu	Ser	Ser	Ser	Ala	Thr	Leu	Met
1445						1450					1455			

Pro Val	Pro Ile	Ser Pro	Pro Pro	Phe Thr	Gln Arg	Ala Val	Thr Asp
1460			1465			1470	
Thr Arg	Gly Asp	Ser His	Phe Phe	Arg Leu	Met Thr	Asn Thr	Val Val
1475			1480			1485	
Lys Leu	His Glu	Ser Ser	Arg Arg	His Asn	Leu Gln	Met Pro	Ser Ser
1490			1495			1500	
Gln Leu	Glu Pro	Leu Thr	Ser Ser	Thr Ser	Asn Leu	Leu Leu	His Ser
1505			1510			1515	
Thr Pro	Met Pro	Ala Leu	Thr Thr	Val Lys	Ser Gln	Asn Ser	Lys Lys
1520			1525			1530	
Leu Thr	Pro Ser	Pro Trp	Ala Glu	Tyr Gln	Phe Trp	His Lys	Pro Pro
1535			1540			1545	
Tyr Ser	Asp Ile	Ala Glu	Lys Gly	Lys Lys	Pro Glu	Val Ser	Met Met
1550			1555			1560	
Leu Ala	Thr Thr	Gly Leu	Ser Glu	Ala Thr	Thr Leu	Val Ser	Asp Asp
1565			1570			1575	
Trp Asp	Gly Gln	Lys Asn	Thr Lys	Lys Ser	Asp Phe	Asp Lys	Lys Lys
1580			1585			1590	
Pro Val	Gln Glu	Ala Thr	Thr Ser	Lys Leu	Leu Pro	Phe Asp	Ser Ser
1595			1600			1605	
Leu Ser	Arg Tyr	Ile Phe	Glu Lys	Pro Arg	Ile Val	Gly Gly	Lys Lys
1610			1615			1620	
Ala Ala	Ser Phe	Thr Ile	Pro Ala	Asn Ser	Asp Ala	Phe Leu	Pro Pro
1625			1630			1635	
Cys Glu	Ala Val	Gly Asn	Pro Leu	Pro Thr	Ile His	Trp Thr	Arg Arg
1640			1645			1650	
Val Ser	Gly Leu	Asp Leu	Ser Arg	Gly Asn	Gln Asn	Ser Arg	Val Val
1655			1660			1665	
Gln Val	Leu Pro	Asn Gly	Thr Leu	Ser Ile	Gln Arg	Val Glu	Ile Ile
1670			1675			1680	
Gln Asp	Arg Gly	Gln Tyr	Leu Cys	Ser Ala	Ser Asn	Leu Phe	Gly Gly
1685			1690			1695	
Thr Asp	His Leu	His Val	Thr Leu	Ser Val	Val Ser	Tyr Pro	Pro Pro
1700			1705			1710	
Arg Ile	Leu Glu	Arg Arg	Thr Lys	Glu Ile	Thr Val	His Ser	Gly Gly
1715			1720			1725	
Ser Thr	Val Glu	Leu Lys	Cys Arg	Ala Glu	Gly Arg	Pro Ser	Pro Pro
1730			1735			1740	





Ser	Pro	Val	Pro	Glu	Ile	Ser	Trp	Ser	Leu	Pro	Asp	Gly	Thr	Met
2030						2035					2040			
Ile	Asn	Asn	Ala	Met	Gln	Ala	Asp	Asp	Ser	Gly	His	Arg	Thr	Arg
2045						2050					2055			
Arg	Tyr	Thr	Leu	Phe	Asn	Asn	Gly	Thr	Leu	Tyr	Phe	Asn	Lys	Val
2060						2065					2070			
Gly	Val	Ala	Glu	Glu	Gly	Asp	Tyr	Thr	Cys	Tyr	Ala	Gln	Asn	Thr
2075						2080					2085			
Leu	Gly	Lys	Asp	Glu	Met	Lys	Val	His	Leu	Thr	Val	Ile	Thr	Ala
2090						2095					2100			
Ala	Pro	Arg	Ile	Arg	Gln	Ser	Asn	Lys	Thr	Asn	Lys	Arg	Ile	Lys
2105						2110					2115			
Ala	Gly	Asp	Thr	Ala	Val	Leu	Asp	Cys	Glu	Val	Thr	Gly	Asp	Pro
2120						2125					2130			
Lys	Pro	Lys	Ile	Phe	Trp	Leu	Leu	Pro	Ser	Asn	Asp	Met	Ile	Ser
2135						2140					2145			
Phe	Ser	Ile	Asp	Arg	Tyr	Thr	Phe	His	Ala	Asn	Gly	Ser	Leu	Thr
2150						2155					2160			
Ile	Asn	Lys	Val	Lys	Leu	Leu	Asp	Ser	Gly	Glu	Tyr	Val	Cys	Val
2165						2170					2175			
Ala	Arg	Asn	Pro	Ser	Gly	Asp	Asp	Thr	Lys	Met	Tyr	Lys	Leu	Asp
2180						2185					2190			
Val	Val	Ser	Lys	Pro	Pro	Leu	Ile	Asn	Gly	Leu	Tyr	Thr	Asn	Arg
2195						2200					2205			
Thr	Val	Ile	Lys	Ala	Thr	Ala	Val	Arg	His	Ser	Lys	Lys	His	Phe
2210						2215					2220			
Asp	Cys	Arg	Ala	Glu	Gly	Thr	Pro	Ser	Pro	Glu	Val	Met	Trp	Ile
2225						2230					2235			
Met	Pro	Asp	Asn	Ile	Phe	Leu	Thr	Ala	Pro	Tyr	Tyr	Gly	Ser	Arg
2240						2245					2250			
Ile	Thr	Val	His	Lys	Asn	Gly	Thr	Leu	Glu	Ile	Arg	Asn	Val	Arg
2255						2260					2265			
Leu	Ser	Asp	Ser	Ala	Asp	Phe	Ile	Cys	Val	Ala	Arg	Asn	Glu	Gly
2270						2275					2280			
Gly	Glu	Ser	Val	Leu	Val	Val	Gln	Leu	Glu	Val	Leu	Glu	Met	Leu
2285						2290					2295			
Arg	Arg	Pro	Thr	Phe	Arg	Asn	Pro	Phe	Asn	Glu	Lys	Ile	Val	Ala
2300						2305					2310			



<210> 15  
 <211> 236  
 <212> PRT  
 <213> Mus musculus

<220>  
 <221> misc\_feature  
 <222> (1)..(236)  
 <223> 'x' can be any amino acid

<400> 15

```

Met Gln Lys Arg Gly Arg Glu Val Ser Cys Leu Leu Ile Ser Leu Thr
1          5          10          15

Ala Ile Cys Leu Val Val Thr Pro Gly Ser Arg Val Cys Pro Arg Arg
          20          25          30

Cys Ala Cys Tyr Val Pro Thr Glu Val His Cys Thr Phe Arg Asp Leu
          35          40          45

Thr Ser Ile Pro Asp Gly Pro Ala Asn Val Glu Arg Val Asn Leu Gly
          50          55          60

Tyr Asn Ser Leu Thr Arg Leu Thr Glu Asn Asp Phe Ser Gly Leu Ser
65          70          75          80

Arg Leu Glu Leu Leu Met Leu His Ser Asn Gly Ile His Arg Val Ser
          85          90          95

Asp Lys Thr Phe Ser Gly Leu Gln Ser Leu Gln Val Leu Lys Met Ser
          100          105          110

Tyr Asn Lys Val Gln Ile Ile Glu Lys Asp Thr Leu Tyr Gly Leu Arg
          115          120          125

Ser Leu Thr Arg Leu His Leu Asp His Asn Asn Ile Glu Phe Ile Asn
          130          135          140

Pro Glu Ala Phe Tyr Gly Leu Thr Leu Leu Arg Leu Val His Leu Glu
145          150          155          160

Gly Asn Arg Leu Thr Lys Leu His Pro Asp Thr Phe Val Ser Leu Ser
          165          170          175

Tyr Leu Gln Ile Phe Lys Thr Ser Phe Ile Lys Xaa Leu Tyr Leu Tyr
          180          185          190

Asp Asn Phe Thr Ser Leu Pro Lys Glu Met Val Ser Ser Met Pro Asn
          195          200          205

Leu Glu Ser Leu Tyr Leu His Gly Asn Pro Trp Thr Cys Asp Cys His
          210          215          220

Leu Lys Trp Leu Ser Glu Trp Met Gln Gly Asn Pro
225          230          235

```

<210> 16  
 <211> 2587  
 <212> PRT  
 <213> homo sapiens

<400> 16

Met Lys Val Lys Gly Arg Gly Ile Thr Cys Leu Leu Val Ser Phe Ala  
 1 5 10 15

Val Ile Cys Leu Val Ala Thr Pro Gly Gly Lys Ala Cys Pro Arg Arg  
 20 25 30

Cys Ala Cys Tyr Met Pro Thr Glu Val His Cys Thr Phe Arg Tyr Leu  
 35 40 45

Thr Ser Ile Pro Asp Ser Ile Pro Pro Asn Val Glu Arg Ile Asn Leu  
 50 55 60

Gly Tyr Asn Ser Leu Val Arg Leu Met Glu Thr Asp Phe Ser Gly Leu  
 65 70 75 80

Thr Lys Leu Glu Leu Leu Met Leu His Ser Asn Gly Ile His Thr Ile  
 85 90 95

Pro Asp Lys Thr Phe Ser Asp Leu Gln Ala Leu Gln Val Leu Lys Met  
 100 105 110

Ser Tyr Asn Lys Val Arg Lys Leu Gln Lys Asp Thr Phe Tyr Gly Leu  
 115 120 125

Arg Ser Leu Thr Arg Leu His Met Asp His Asn Asn Ile Glu Phe Ile  
 130 135 140

Asn Pro Glu Val Phe Tyr Gly Leu Asn Phe Leu Arg Leu Val His Leu  
 145 150 155 160

Glu Gly Asn Gln Leu Thr Lys Leu His Pro Asp Thr Phe Val Ser Leu  
 165 170 175

Ser Tyr Leu Gln Ile Phe Lys Ile Ser Phe Ile Lys Phe Leu Tyr Leu  
 180 185 190

Ser Asp Asn Phe Leu Thr Ser Leu Pro Gln Glu Met Val Ser Tyr Met  
 195 200 205

Pro Asp Leu Asp Ser Leu Tyr Leu His Gly Asn Pro Trp Thr Cys Asp  
 210 215 220

Cys His Leu Lys Trp Leu Ser Asp Trp Ile Gln Pro Asp Val Ile Lys  
 225 230 235 240

Cys Lys Lys Asp Arg Ser Pro Ser Ser Ala Gln Gln Cys Pro Leu Cys  
 245 250 255

Met Asn Pro Arg Thr Ser Lys Gly Lys Pro Leu Ala Met Val Ser Ala

Ala Ala Phe Gln Cys Ala Lys Pro Thr Ile Asp Ser Ser Leu Lys Ser  
275 280 285

Lys Ser Leu Thr Ile Leu Glu Asp Ser Ser Ser Ala Phe Ile Ser Pro  
290 295 300

Gln Gly Phe Met Ala Pro Phe Gly Ser Leu Thr Leu Asn Met Thr Asp  
305 310 315 320

Gln Ser Gly Asn Glu Ala Asn Met Val Cys Ser Ile Gln Lys Pro Ser  
325 330 335

Arg Thr Ser Pro Ile Ala Phe Thr Glu Glu Asn Asp Tyr Ile Val Leu  
340 345 350

Asn Thr Ser Phe Ser Thr Phe Leu Val Cys Asn Ile Asp Tyr Gly His  
355 360 365

Ile Gln Pro Val Trp Gln Ile Leu Ala Leu Tyr Ser Asp Ser Pro Leu  
370 375 380

Ile Leu Glu Arg Ser His Leu Leu Ser Glu Thr Pro Gln Leu Tyr Tyr  
385 390 395 400

Lys Tyr Lys Gln Val Ala Pro Lys Pro Glu Asp Ile Phe Thr Asn Ile  
405 410 415

Glu Ala Asp Leu Arg Ala Asp Pro Ser Trp Leu Met Gln Asp Gln Ile  
420 425 430

Ser Leu Gln Leu Asn Arg Thr Ala Thr Thr Phe Ser Thr Leu Gln Ile  
435 440 445

Gln Tyr Ser Ser Asp Ala Gln Ile Thr Leu Pro Arg Ala Glu Met Arg  
450 455 460

Pro Val Lys His Lys Trp Thr Met Ile Ser Arg Asp Asn Asn Thr Lys  
465 470 475 480

Leu Glu His Thr Val Leu Val Gly Gly Thr Val Gly Leu Asn Cys Pro  
485 490 495

Gly Gln Gly Asp Pro Thr Pro His Val Asp Trp Leu Leu Ala Asp Gly  
500 505 510

Ser Lys Val Arg Ala Pro Tyr Val Ser Glu Asp Gly Arg Ile Leu Ile  
515 520 525

Asp Lys Ser Gly Lys Leu Glu Leu Gln Met Ala Asp Ser Phe Asp Thr  
530 535 540

Gly Val Tyr His Cys Ile Ser Ser Asn Tyr Asp Asp Ala Asp Ile Leu  
545 550 555 560

Thr Tyr Arg Ile Thr Val Val Glu Pro Leu Val Glu Ala Tyr Gln Glu

565								570					575			
Asn	Gly	Ile	His	His	Thr	Val	Phe	Ile	Gly	Glu	Thr	Leu	Asp	Leu	Pro	
			580					585					590			
Cys	His	Ser	Thr	Gly	Ile	Pro	Asp	Ala	Ser	Ile	Ser	Trp	Val	Ile	Pro	
			595					600					605			
Gly	Asn	Asn	Val	Leu	Tyr	Gln	Ser	Ser	Arg	Asp	Lys	Lys	Val	Leu	Asn	
			610					615					620			
Asn	Gly	Thr	Leu	Arg	Ile	Leu	Gln	Val	Thr	Pro	Lys	Asp	Gln	Gly	Tyr	
			625					630					635		640	
Tyr	Arg	Cys	Val	Ala	Ala	Asn	Pro	Ser	Gly	Val	Asp	Phe	Leu	Ile	Phe	
			645								650		655			
Gln	Val	Ser	Val	Lys	Met	Lys	Gly	Gln	Arg	Pro	Leu	Glu	His	Asp	Gly	
			660					665					670			
Glu	Thr	Glu	Gly	Ser	Gly	Leu	Asp	Glu	Ser	Asn	Pro	Ile	Ala	His	Leu	
			675					680					685			
Lys	Glu	Pro	Pro	Gly	Ala	Gln	Leu	Arg	Thr	Ser	Ala	Leu	Met	Glu	Ala	
			690					695					700			
Glu	Val	Gly	Lys	His	Thr	Ser	Ser	Thr	Ser	Lys	Arg	His	Asn	Tyr	Arg	
			705					710					715		720	
Glu	Leu	Thr	Leu	Gln	Arg	Arg	Gly	Asp	Ser	Thr	His	Arg	Arg	Phe	Arg	
			725					730					735			
Glu	Asn	Arg	Arg	His	Phe	Pro	Pro	Ser	Ala	Arg	Arg	Ile	Asp	Pro	Gln	
			740					745					750			
His	Trp	Ala	Ala	Leu	Leu	Glu	Lys	Ala	Lys	Lys	Asn	Ala	Met	Pro	Asp	
			755					760					765			
Lys	Arg	Glu	Asn	Thr	Thr	Val	Ser	Pro	Pro	Pro	Val	Val	Thr	Gln	Leu	
			770					775					780			
Pro	Asn	Ile	Pro	Gly	Glu	Glu	Asp	Asp	Ser	Ser	Gly	Met	Leu	Ala	Leu	
			785					790					795		800	
His	Glu	Glu	Phe	Met	Val	Pro	Ala	Thr	Lys	Ala	Leu	Asn	Leu	Pro	Ala	
			805					810					815			
Arg	Thr	Val	Thr	Ala	Asp	Ser	Arg	Thr	Ile	Ser	Asp	Ser	Pro	Met	Thr	
			820					825					830			
Asn	Ile	Asn	Tyr	Gly	Thr	Glu	Phe	Ser	Pro	Val	Val	Asn	Ser	Gln	Ile	
			835					840					845			
Leu	Pro	Pro	Glu	Glu	Pro	Thr	Asp	Phe	Lys	Leu	Ser	Thr	Ala	Ile	Lys	
			850					855					860			
Thr	Thr	Ala	Met	Ser	Lys	Asn	Ile	Asn	Pro	Thr	Met	Ser	Ser	Gln	Ile	

865		870		875		880
Gln Gly Thr Thr Asn Gln His Ser Ser Thr Val Phe Pro Leu Leu Leu						
	885			890		895
Gly Ala Thr Glu Phe Gln Asp Ser Asp Gln Met Gly Arg Gly Arg Glu						
	900			905		910
His Phe Gln Ser Arg Pro Pro Ile Thr Val Arg Thr Met Ile Lys Asp						
	915			920		925
Val Asn Val Lys Met Leu Ser Ser Thr Thr Asn Lys Leu Leu Leu Glu						
	930			935		940
Ser Val Asn Thr Thr Asn Ser His Gln Thr Ser Val Arg Glu Val Ser						
	945			950		955
						960
Glu Pro Arg His Asn His Phe Tyr Ser His Thr Thr Gln Ile Leu Ser						
				965		970
						975
Thr Ser Thr Phe Pro Ser Asp Pro His Thr Ala Ala His Ser Gln Phe						
				980		985
						990
Pro Ile Pro Arg Asn Ser Thr Val Asn Ile Pro Leu Phe Arg Arg Phe						
				995		1000
						1005
Gly Arg Gln Arg Lys Ile Gly Gly Arg Gly Arg Ile Ile Ser Pro						
	1010			1015		1020
Tyr Arg Thr Pro Val Leu Arg Arg His Arg Tyr Ser Ile Phe Arg						
	1025			1030		1035
Ser Thr Thr Arg Gly Ser Ser Glu Lys Ser Thr Thr Ala Phe Ser						
	1040			1045		1050
Ala Thr Val Leu Asn Val Thr Cys Leu Ser Cys Leu Pro Arg Glu						
	1055			1060		1065
Arg Leu Thr Thr Ala Thr Ala Ala Leu Ser Phe Pro Ser Ala Ala						
	1070			1075		1080
Pro Ile Thr Phe Pro Lys Ala Asp Ile Ala Arg Val Pro Ser Glu						
	1085			1090		1095
Glu Ser Thr Thr Leu Val Gln Asn Pro Leu Leu Leu Leu Glu Asn						
	1100			1105		1110
Lys Pro Ser Val Glu Lys Thr Thr Pro Thr Ile Lys Tyr Phe Arg						
	1115			1120		1125
Thr Glu Ile Ser Gln Val Thr Pro Thr Gly Ala Val Met Thr Tyr						
	1130			1135		1140
Ala Pro Thr Ser Ile Pro Met Glu Lys Thr His Lys Val Asn Ala						
	1145			1150		1155
Ser Tyr Pro Arg Val Ser Ser Thr Asn Glu Ala Lys Arg Asp Ser						



1160	1165	1170
Val Ile Thr Ser Ser Leu Ser Gly Ala Ile Thr Lys Pro Pro Met		
1175	1180	1185
Thr Ile Ile Ala Ile Thr Arg Phe Ser Arg Arg Lys Ile Pro Trp		
1190	1195	1200
Gln Gln Asn Phe Val Asn Asn His Asn Pro Lys Gly Arg Leu Arg		
1205	1210	1215
Asn Gln His Lys Val Ser Leu Gln Lys Ser Thr Ala Val Met Leu		
1220	1225	1230
Pro Lys Thr Ser Pro Ala Leu Pro Gln Arg Gln Ser Ser Pro Phe		
1235	1240	1245
His Phe Thr Thr Leu Ser Thr Ser Val Met Gln Ile Pro Ser Asn		
1250	1255	1260
Thr Leu Thr Thr Ala His His Thr Thr Thr Lys Thr His Asn Pro		
1265	1270	1275
Gly Ser Leu Pro Thr Lys Lys Glu Leu Pro Phe Pro Pro Leu Asn		
1280	1285	1290
Pro Met Leu Pro Ser Ile Ile Ser Lys Asp Ser Ser Thr Lys Ser		
1295	1300	1305
Ile Ile Ser Thr Gln Thr Ala Ile Pro Ala Thr Thr Pro Thr Phe		
1310	1315	1320
Pro Ala Ser Val Ile Thr Tyr Glu Thr Gln Thr Glu Arg Ser Arg		
1325	1330	1335
Ala Gln Thr Ile Gln Arg Glu Gln Glu Pro Gln Lys Lys Asn Arg		
1340	1345	1350
Thr Asp Pro Asn Ile Ser Pro Asp Gln Ser Ser Gly Phe Thr Thr		
1355	1360	1365
Pro Thr Ala Met Thr Pro Pro Ala Leu Ala Phe Thr His Ser Pro		
1370	1375	1380
Pro Glu Asn Thr Thr Gly Ile Ser Ser Thr Ile Ser Phe His Ser		
1385	1390	1395
Arg Thr Leu Asn Leu Thr Asp Val Ile Glu Glu Leu Ala Gln Ala		
1400	1405	1410
Ser Thr Gln Thr Leu Lys Ser Thr Ile Ala Ser Glu Thr Thr Leu		
1415	1420	1425
Ser Ser Lys Ser His Gln Ser Thr Thr Thr Arg Lys Ala Ser Leu		
1430	1435	1440
Asp Thr Pro Ile Pro Pro Phe Leu Ser Ser Ser Ala Thr Leu Met		

Pro Val	Pro Ile	Ser Pro	Pro Pro	Phe Thr	Gln Arg	Ala Val	Thr Asp
1460			1465			1470	
Thr Arg	Gly Asp	Ser His	Phe Phe	Arg Leu	Met Thr	Asn Thr	Val Val
1475			1480			1485	
Lys Leu	His Glu	Ser Ser	Arg Arg	His Asn	Leu Gln	Met Pro	Ser Ser
1490			1495			1500	
Gln Leu	Glu Pro	Leu Thr	Ser Ser	Ser Thr	Ser Asn	Leu Leu	His Ser
1505			1510			1515	
Thr Pro	Met Pro	Ala Leu	Thr Thr	Thr Val	Lys Ser	Gln Asn	Ser Lys
1520			1525			1530	
Leu Thr	Pro Ser	Pro Trp	Ala Ala	Glu Tyr	Gln Phe	Trp His	Lys Pro
1535			1540			1545	
Tyr Ser	Asp Ile	Ala Glu	Lys Lys	Gly Lys	Lys Pro	Glu Val	Ser Met
1550			1555			1560	
Leu Ala	Thr Thr	Gly Leu	Ser Ser	Glu Ala	Thr Thr	Leu Val	Ser Asp
1565			1570			1575	
Trp Asp	Gly Gln	Lys Asn	Thr Thr	Lys Lys	Ser Asp	Phe Asp	Lys Lys
1580			1585			1590	
Pro Val	Gln Glu	Ala Thr	Thr Thr	Ser Lys	Leu Leu	Pro Phe	Asp Ser
1595			1600			1605	
Leu Ser	Arg Tyr	Ile Phe	Glu Glu	Lys Pro	Arg Ile	Val Gly	Gly Lys
1610			1615			1620	
Ala Ala	Ser Phe	Thr Ile	Pro Pro	Ala Asn	Ser Asp	Ala Phe	Leu Pro
1625			1630			1635	
Cys Glu	Ala Val	Gly Asn	Pro Pro	Leu Pro	Thr Ile	His Trp	Thr Arg
1640			1645			1650	
Val Ser	Gly Leu	Asp Leu	Ser Ser	Arg Gly	Asn Gln	Asn Ser	Arg Val
1655			1660			1665	
Gln Val	Leu Pro	Asn Gly	Thr Thr	Leu Ser	Ile Gln	Arg Val	Glu Ile
1670			1675			1680	
Gln Asp	Arg Gly	Gln Tyr	Leu Cys	Ser Ser	Ala Ser	Asn Leu	Phe Gly
1685			1690			1695	
Thr Asp	His Leu	His Val	Thr Thr	Leu Ser	Val Val	Ser Tyr	Pro Pro
1700			1705			1710	
Arg Ile	Leu Glu	Arg Arg	Thr Thr	Lys Glu	Ile Thr	Val His	Ser Gly
1715			1720			1725	
Ser Thr	Val Glu	Leu Lys	Cys Cys	Arg Ala	Glu Gly	Arg Pro	Ser Pro

Thr Val	Thr Trp	Ile Leu	Ala Asn	Gln Thr	Val Val	Ser Glu	Ser
1745			1750		1755		
Ser Gln	Gly Ser	Arg Gln	Ala Val	Val Thr	Val Asp	Gly Thr	Leu
1760			1765		1770		
Val Leu	His Asn	Leu Ser	Ile Tyr	Asp Arg	Gly Phe	Tyr Lys	Cys
1775			1780		1785		
Val Ala	Ser Asn	Pro Gly	Gly Gln	Asp Ser	Leu Leu	Val Lys	Ile
1790			1795		1800		
Gln Val	Ile Ala	Ala Pro	Pro Val	Ile Leu	Glu Gln	Arg Arg	Gln
1805			1810		1815		
Val Ile	Val Gly	Thr Trp	Gly Glu	Ser Leu	Lys Leu	Pro Cys	Thr
1820			1825		1830		
Ala Lys	Gly Thr	Pro Gln	Pro Ser	Val Tyr	Trp Val	Leu Ser	Asp
1835			1840		1845		
Gly Thr	Glu Val	Lys Pro	Leu Gln	Phe Thr	Asn Ser	Lys Leu	Phe
1850			1855		1860		
Leu Phe	Ser Asn	Gly Thr	Leu Tyr	Ile Arg	Asn Leu	Ala Ser	Ser
1865			1870		1875		
Asp Arg	Gly Thr	Tyr Glu	Cys Ile	Ala Thr	Ser Ser	Thr Gly	Ser
1880			1885		1890		
Glu Arg	Arg Val	Val Met	Leu Thr	Met Glu	Glu Arg	Val Thr	Ser
1895			1900		1905		
Pro Arg	Ile Glu	Ala Ala	Ser Gln	Lys Arg	Thr Glu	Val Asn	Phe
1910			1915		1920		
Gly Asp	Lys Leu	Leu Leu	Asn Cys	Ser Ala	Thr Gly	Glu Pro	Lys
1925			1930		1935		
Pro Gln	Ile Met	Trp Arg	Leu Pro	Ser Lys	Ala Val	Val Asp	Gln
1940			1945		1950		
Gly Ser	Trp Ile	His Val	Tyr Pro	Asn Gly	Ser Leu	Phe Ile	Gly
1955			1960		1965		
Ser Val	Thr Glu	Lys Asp	Ser Gly	Val Tyr	Leu Cys	Val Ala	Arg
1970			1975		1980		
Asn Lys	Met Gly	Asp Asp	Leu Ile	Leu Met	His Val	Ser Leu	Arg
1985			1990		1995		
Leu Lys	Pro Ala	Lys Ile	Asp His	Lys Gln	Tyr Phe	Arg Lys	Gln
2000			2005		2010		
Val Leu	His Gly	Lys Asp	Phe Gln	Val Asp	Cys Lys	Ala Ser	Gly

Ser Pro Val Pro Glu Ile	Ser Trp Ser Leu Pro	Asp Gly Thr Met
2030	2035	2040
Ile Asn Asn Ala Met Gln	Ala Asp Asp Ser Gly His	Arg Thr Arg
2045	2050	2055
Arg Tyr Thr Leu Phe Asn	Asn Gly Thr Leu Tyr Phe	Asn Lys Val
2060	2065	2070
Gly Val Ala Glu Glu Gly	Asp Tyr Thr Cys Tyr Ala	Gln Asn Thr
2075	2080	2085
Leu Gly Lys Asp Glu Met	Lys Val His Leu Thr Val	Ile Thr Ala
2090	2095	2100
Ala Pro Arg Ile Arg Gln	Ser Asn Lys Thr Asn Lys	Arg Ile Lys
2105	2110	2115
Ala Gly Asp Thr Ala Val	Leu Asp Cys Glu Val Thr	Gly Asp Pro
2120	2125	2130
Lys Pro Lys Ile Phe Trp	Leu Leu Pro Ser Asn Asp	Met Ile Ser
2135	2140	2145
Phe Ser Ile Asp Arg Tyr	Thr Phe His Ala Asn Gly	Ser Leu Thr
2150	2155	2160
Ile Asn Lys Val Lys Leu	Leu Asp Ser Gly Glu Tyr	Val Cys Val
2165	2170	2175
Ala Arg Asn Pro Ser Gly	Asp Asp Thr Lys Met Tyr	Lys Leu Asp
2180	2185	2190
Val Val Ser Lys Pro Pro	Leu Ile Asn Gly Leu Tyr	Thr Asn Arg
2195	2200	2205
Thr Val Ile Lys Ala Thr	Ala Val Arg His Ser Lys	Lys His Phe
2210	2215	2220
Asp Cys Arg Ala Glu Gly	Thr Pro Ser Pro Glu Val	Met Trp Ile
2225	2230	2235
Met Pro Asp Asn Ile Phe	Leu Thr Ala Pro Tyr Tyr	Gly Ser Arg
2240	2245	2250
Ile Thr Val His Lys Asn	Gly Thr Leu Glu Ile Arg	Asn Val Arg
2255	2260	2265
Leu Ser Asp Ser Ala Asp	Phe Ile Cys Val Ala Arg	Asn Glu Gly
2270	2275	2280
Gly Glu Ser Val Leu Val	Val Gln Leu Glu Val Leu	Glu Met Leu
2285	2290	2295
Arg Arg Pro Thr Phe Arg	Asn Pro Phe Asn Glu Lys	Ile Val Ala

2300	2305	2310
Gln Leu Gly Lys Ser Thr Ala	Leu Asn Cys Ser Val	Asp Gly Asn
2315	2320	2325
Pro Pro Pro Glu Ile Ile Trp	Ile Leu Pro Asn Gly	Thr Arg Phe
2330	2335	2340
Ser Asn Gly Pro Gln Ser Tyr	Gln Tyr Leu Ile Ala	Ser Asn Gly
2345	2350	2355
Ser Phe Ile Ile Ser Lys Thr	Thr Arg Glu Asp Ala	Gly Lys Tyr
2360	2365	2370
Arg Cys Ala Ala Arg Asn Lys	Val Gly Tyr Ile Glu	Lys Leu Val
2375	2380	2385
Ile Leu Glu Ile Gly Gln Lys	Pro Val Ile Leu Thr	Tyr Ala Pro
2390	2395	2400
Gly Thr Val Lys Gly Ile Ser	Gly Glu Ser Leu Ser	Leu His Cys
2405	2410	2415
Val Ser Asp Gly Ile Pro Lys	Pro Asn Ile Lys Trp	Thr Met Pro
2420	2425	2430
Ser Gly Tyr Val Val Asp Arg	Pro Gln Ile Asn Gly	Lys Tyr Ile
2435	2440	2445
Leu His Asp Asn Gly Thr Leu	Val Ile Lys Glu Ala	Thr Ala Tyr
2450	2455	2460
Asp Arg Gly Asn Tyr Ile Cys	Lys Ala Gln Asn Ser	Val Gly His
2465	2470	2475
Thr Leu Ile Thr Val Pro Val	Met Ile Val Ala Tyr	Pro Pro Arg
2480	2485	2490
Ile Thr Asn Arg Pro Pro Arg	Ser Ile Val Thr Arg	Thr Gly Ala
2495	2500	2505
Ala Phe Gln Leu His Cys Val	Ala Leu Gly Val Pro	Lys Pro Glu
2510	2515	2520
Ile Thr Trp Glu Met Pro Asp	His Ser Leu Leu Ser	Thr Ala Ser
2525	2530	2535
Lys Glu Arg Thr His Gly Ser	Glu Gln Leu His Leu	Gln Gly Thr
2540	2545	2550
Leu Val Ile Gln Asn Pro Gln	Thr Ser Asp Ser Gly	Ile Tyr Lys
2555	2560	2565
Cys Thr Ala Lys Asn Pro Leu	Gly Ser Asp Tyr Ala	Ala Thr Tyr
2570	2575	2580
Ile Gln Val Ile		

2585

<210> 17  
<211> 5551  
<212> DNA  
<213> Mus musculus

<400> 17  
tctagaagta aaatgatacct gagtagcgat cctgggaaaa tacgtactct aacacactgc 60  
aatcatctct ctgtgggttg ctggagctga ggtctggaag gctcgacctt ggtagaaat 120  
aacctaccga atacagagct atgacgttag tctggaagga gctttggaag aatgacaagc 180  
tgtagctgcc cagaacatac tagatgccat atttccaagg caagtgtcca catgaggaca 240  
tcttaagaat atggttgtct ctgcagtgtc aaggaccttg ttcgtgccac acaggtctcc 300  
agggttagtg ctaactctga ctgcttgact ctttaattct accttgatca ttaatgacta 360  
gaaatcactt ggtgattagc aactggatat ggaatattac taatttgtag ccaagccagg 420  
ccacctcagc tttggcagct ccattcattc tgtggagccc agtcacgtgg gtttgaatca 480  
actgtactgt ttctacttac aagacgcatt acctgagatg agtcattttt cttcacaagt 540  
cttttttagaa gagtcaatta gacatattct gatgaagtaa gcatataaag tgagagcagc 600  
atgaatgtgt tccatgtatg ctcatggatg ctattataat gtggaaataa actgacttta 660  
aaaaaaaaag cttatgatac ttgtcacaga gtaaattctc cataaatatc atctgcattt 720  
ataaattatt ttcataatcc atcaattaaa aacctttaga aattttgtta acacaaagat 780  
ccctaggccc ctgccctagg atgggtctgta tgggtgggcct gagagatgga gcttaagaac 840  
ttacttgctc caggagcaca tcttcagaac atctgcctca aaacatttat cccaaatgct 900  
catcaaaggc tcaactcacat gtgcttcaac cacagggtatt aaacagtcatt ttagtcaca 960  
tttctcaaac ggtggaagcc tgctagagga acaggatgta tcaggataac atccaacctt 1020  
acaaaaggat gtcataaccc tcaccacaac aaacaacaac gacaacaaac ccataaaaat 1080  
tatcacggca aatgaactaa gccatatgca gaaaaagtat tatatgttct cattgtgggg 1140  
tgtttttcct taatagtcaa atatgcagaa tatagacaaa gatgggttat gcaagtgggg 1200  
atggcgaagg atactttag attagaggac acaaaagcaac aactacagag tgaagtaatc 1260  
cagagactta atgtataata tgaggactgt atttaataat tctatttaag atacacagca 1320  
aacgagtgta tcttactaac acacacactt acatagagag aataaagtga tagatacgtt 1380  
tgttttatct tcatgtagct gataatttca tattgtacac ctcaaacata gataaccaac 1440  
aaagaggaag aggataggtg cctctcccag ggcggaagag tacattcgaa agtcagacac 1500

cattgtgtag atgtaccaca tggaggagct agagaaagta gccaggagc taaagggatc 1560  
tgcaacccta taggtggaac aacattatga gctaaccagt accccggagc tcttgactct 1620  
agctgcatat atatcaaaag atggcctaata cggccatcac tggaaagaga ggcccattgg 1680  
acttgcaaac tttatatgcc ccagtacagg ggaataccag ggccaaaaag ggggagtgagg 1740  
tgggcagggg agtgggggtg ggtggatatg ggggactttt ggtatagcat tggaaatgta 1800  
aatgagttaa atacctaata aaaaatggaa aaaaaaaaaa aaaaaaaaaa aaaggaaggt 1860  
cagacacctc acttcactgc tatctcaact tgcaaacaga aggggagtc acaaccagg 1920  
acaaaccaca gtgattgaag cgtctttgaa tgttattgct gttgttggtta ccaccatcat 1980  
tagcatatat tcattgtgaa aacttacggg gtctatgaca tgttttttta ttcaagtata 2040  
tcacatgctg tcagcatatt tggcaccact accagcccca gcccccttg ccccgcccc 2100  
aacacacaca cacacacaca cacacacaca cacacacaca cacacacaca cacacacacc 2160  
tttaccttct cctgggcac atctgctcac tcaccaccc aagcttaatc cttttccttc 2220  
cctgcaatag tacctctcct atttttatgt ctaggttccc cctccccctg ttaggagatg 2280  
ggagaggtca cgaaaggaaa gaattttagt cccctgagcc agcccgggcc acagagcctg 2340  
ccaccagaca ggaaaagccc agggcttacc agcacaggag gagcaaactc gcaggcgagc 2400  
ctgggttggc gctggtggtc ccgggtcgat ggcccgcca tccccagaag ccgaggctat 2460  
agctgcgtca cctgccccgc cctcctcccg agtgaagacc cctagaggct gagcagaccc 2520  
caaaggcggt gcaattccat tggcccaagg cagaggtgag cggtgctaa tcccccggg 2580  
aagtgaaggg acccagagag tctggtagat gtgggagctg ggggttcaggg cgagacagag 2640  
ggtgggatgg gcagaagggt ccaggaaaag gaaagtactg gaggggagtt gggacaaaag 2700  
cagcgaccaa gggaacatcg cttcagtac tgaagccagg caaaaggagc gggaaggatt 2760  
atatgtagcc tgggacgctt tcataaacac tgatgacgtg tttgtgcaa gcaagcaatt 2820  
tgaggagaaa cgcctgggac gtcggaaaga aggagtgatc gattagtact tgtaagtta 2880  
ggtgagtttg agaactaact aacctatact attgagggag aaggaagagc attccagcag 2940  
cagcagcagc agcagcaatc agataaagga aagctttggt tagtttgga atgtatgata 3000  
ccattaaaat aacagaagcg cctccagttc tctgaagagt cagtccecca gctagtgaag 3060  
actaagccta ctaagccttt tgctccggtt ggaagcaaag aacgttcctt caatcaggtg 3120  
aaggctctcc tcagaagatt tctgtctct gcttatgtta caagaggatt caaaagcaag 3180

acagaagagc tcaggtattg ccaactcttt tgtaaatac agtttgaggc ttaagtgtac	3240
gggaactcat gtggatttca ttacggctc tcttctctta taactaactc ttaaggtgca	3300
tatagtctct tctgtttccc agctaccttg taccatcttt gtttatctaa taatagcaag	3360
ctcatctgct ttttaatcat cacgcagaga gtattcaaaa atattcagtg atgtaacagt	3420
gacagtgtag gcatagaagt aatcattagt aaatcttaat ttgggttaaa ctcattcata	3480
acagctccag gttgggaggg atcactgagc cttcgccacg tgcgggttaa agatattttc	3540
taacaagaga agcagaattc ttccttgcc atgctcccca tcaactgtgtc agtaagcaga	3600
ggggtgtttc caagcagaga aagagcagac agtggtatgc ctgcaaagtc agagactcag	3660
ccctcccagc tggtcagttt actgtcctcc cggtcattag ttggctctga aaaggcccat	3720
gtgtccttat tggcaaggac ttgcagacat gctagaaaga aatttgacct tttttctag	3780
tgggttatta cagctgtaaa agtatttttg aagggttaagc caaataaata aaacacatat	3840
taaataatac aatgttacia aaattgatca tataaagaag tacattcata aatgcaatgt	3900
gaaaaatata tataattttt atctatttac tggtgcaaag ttttctaaat tgcacatgta	3960
ctatttttat atttataaaa atatttttaa aatgtatata aaagtgtaaa aggcctcttg	4020
tcaaacaaga gagttaaatt taaaaacttt aattgtcccg ataacattat tatgatctct	4080
aatgacaggg atcctgcttt tcattgggaa atgagaagct atgaagatat gtttacaata	4140
ataagcccat ttagtgataa agtccaatgg gaagctagca cacactgggt tataaagaga	4200
acagtttctt gagtctatgc aagtttacac tctaggaat aagagttcct ctttctccag	4260
atttcactag catttggtgt catcatttat cttcttgatg atgagcatta taagtggaat	4320
aagataggat ctcaaaggaa tgtcaatttg gatgccctga acaatctttc aggtctttct	4380
ttcagttcac tagtctattc atttattgga taattggggg atgggtgttaa ttttttgca	4440
gttcttatgg aattccaaaa aacaaaaaac aaacaaacaa acaaaaaacc tctgaaacta	4500
gaactaccaa tccattactg ggtatgtaac aaagagaaat ctgcacagaa tttattgcta	4560
cattgttcat tattcacgac agccaagaat gtggaaccaa cttacgtagc cgtcaaaata	4620
tgaacggata aagaaaatgt ggaaatgtgt acaacagagt cccatgtggc cataaaagag	4680
tgaaatcatg acatatgcag gaaatggatg caactggaaa tcaattgggc taatcaaaac	4740
aagacagact caaaaaggaa acaccgtgta gcttctctga caaacagaag ctagatttac	4800
actgtacgt gcgcatgtgt gtttagaatt ttatttagtt atacactatt ctaatctgtg	4860
agtgtgtata aaggcatgca tgtaaagcaa aaacaagcta gctgggggtg gtaggagaga	4920



aagcaatgag aggagttaat aagaacgaag catagtaaca taggtgccag gatgaaatgc 4980  
 attaatttgt atgctaacta aaccacagac aggaggcaca cgttcaaacc aggggtgaaat 5040  
 cccagcacag agaaggggaa gtagacacaa agtttcgcca ctaaccaaga agccatttgc 5100  
 agttgctgcc tgctgggagg ggcgttccag ttttctccag tctgacactg tgtataacaa 5160  
 ccagttgaca atacaaagtt ggcatgatgg atgggtttttg tgctattttt catttttttt 5220  
 cttactgttt tgttgttgtg gtggttgttg tgggtggtggc tgtggttttc atttgtttct 5280  
 tttgagagag agaaggaaca tgaaattggg tgggtaggaa gctggaaacg atctggaaga 5340  
 agttggggaa agagaaaaat tgtatggagc atattttaaac aaacaaacaa acaaacaaaa 5400  
 gggttcatttt gccacaaaaa ggtgtgaatt aaattaacca gttacgactc ttaaagaaaa 5460  
 tattcccaat tattcccaga gttgctatgt atgctgtgcc taggactttg cttgaactgg 5520  
 ccctataact ctggtgtggt gtcttttcag g 5551

<210> 18  
 <211> 4610  
 <212> DNA  
 <213> Mus musculus

<400> 18  
 cacagacctt cctcttctaa cctctctccc ccatcttggt gcttcatccc agacttcaac 60  
 accagcaagc acactctgct aatgcaaggg ctgctcctgt caggacaaca aggaggctga 120  
 aggcagacc acacgtttcc aactgctcct gagagtcaat ccccttagac tcatctatag 180  
 caggaaacct gctgtgatct ccattttctc tctgaccaca tccccaagtt atcacaagga 240  
 gtttttcttc aaacctttcc tctccagcaa accccttcag ctcttggtg actttctcta 300  
 gcccttcat tgggaaccct gtgctccatc caatggatgg ctgtgagcat ccacttctgt 360  
 atagaatctt ggtcagtgca gtcttttgta tcctcaagaa cactgggtct gaaaatttta 420  
 acccaaagaa ctgttttttg ttatgattgc tgcaatctct ttcaattcca ataaagagta 480  
 agcatctcat tcctttgtct cctcctttca gtaccaccct gcctttgctg cctttctcaa 540  
 agaatcaata aaaccaaagt gatatagatt catggcattc ctctaactgc tacatccact 600  
 ccagtagtat ctcaattggc aggtgtaaaa gcctggaagc agtcacgagg cagtttcaca 660  
 gaaacttagc ctctggaac cttggcattc ccatagctag aatgccccag atttgtccct 720  
 gagatattgt ggtgggtctt gcatgcttct ttgcagtatt ttactggata agagttagaa 780  
 atctcagggc gagcttagca aaagtatacc tagaatcttc atgacagtca ggtattgcaa 840

actacattgc atattagaag aaagttggta aattcttctg acaaattggag attccctaca 900  
gataacttaa aagaacagct aagtcacact catatgcaag aatttaccaa ggcctaggaa 960  
aggggggggg ggtactgctt tattcatgat aaggtctgct agagcagaac cccctggtgc 1020  
tagctttcac aaggttcaaa ggtgtagcat aaattgtgac tagagtgtga aatctttacc 1080  
tgtcattagc tgactctagg cagagctggt ttatctttac tgtaaacatt acctggttcc 1140  
tgtcagtcct ttgaaggcat tcctctgttt tgtgacagat acttctatgt acctcgctg 1200  
ctgtgacacc ctactccttt gttttctgta ttatataagc ctggtgttcc ctttgtgaaa 1260  
aattacatcc agatacagca ctcccttggt tctgtgtcct tttgtcattt ctggccaact 1320  
ccatgcccac ctgccagaac ccctagtctt ttccacagat tgaggagggc cgactgagcc 1380  
tggtccatgg catctaacca ctgtcagctc actgttgggtg actacctcaa ggtacaagct 1440  
ccattactaa tgaaacaaaa ttagataagt gtgggtccag gaagcaggtt gtacaccctg 1500  
tctgaatgaa cattatgaaa tgactgaaat aagttaaccc atctcttctc cgtttgctaa 1560  
tatagcaaat aaaccgagtt tctgagctgc tgctggtgtg tctccatcag agggcagagc 1620  
cagtctgac ctagctttcc tgtatgtgtg tccattgttt cttcagttcc tgttgcccca 1680  
ttaggaaatc ctaagccatg aaagccatga atctgggaat gacttttcta agaaatgcca 1740  
cgtgaacctt gcgtttcaac gttttgcctg taaacaagat atatggtgcg cagtttataa 1800  
tcataataag ctttgaaata atatataact ccattctcat tctgcttcca cgctgagcat 1860  
cctgtttccc caggaccac aagagcattt gaaaagtagt gatttatgac ctgctttggt 1920  
ctgttactat aaaagcttca tgaaagggca gccatgttga aacatggaac ttgggggtgac 1980  
ctgtatctgt gttcctgggt cgtgctcact catatttgtc tccagaataa atgagtttat 2040  
caacttcgag gaaaaagttg tgtgtttgta tagcacgccc gtggagtccc accattctac 2100  
ttcctgtaat ctgtatatgg tagaaaaagt taatttatgt gattcttcca actccaaata 2160  
tttcaaactt ttagcccct cagcctggga tttctttgac taagtctatt gatttgaag 2220  
atctcagtgg ttaggatgtg cagtcatgat gttcatacgt caggctaagc tgaaaaatat 2280  
gacaaatgaa atgtcaaatg tcatgtgcct gggaaatgtga gtgttagggg gttttaaaga 2340  
aaciaatacc tactctaaat agttaataag tcccatggtt ctattctagt tttgaataat 2400  
gttccttagt atacagcaat ttaatttgaa atgaatagct tcttatcttg accaatctca 2460  
gtgacttcat ccgtcccaag tcatgttttc atattcataa ggatagggtc cattcaacca 2520

catgtttatc atttgggatc tgcatttttc tgatgcaaaa tgattttattc ttccagagca	2580
ctggaattgg gttgaatcat cttataacgg ccaaaactaa atgcttctgt gctaaacaga	2640
gagttacaag acctttttat gtggatggca gcatttttagt catccttatg acagaatgtc	2700
agagtggagc tcccactggg ggaggggctg gtccttggca ggattctctt ggaacatcac	2760
acaaagaaat tccaaattat gaaatgcaca tgatccatcc agaatgtgac ttttgactct	2820
tgaacatgag cttttaaaagt acgtttggct gttcagacct tgactttgag gtgaaggaaa	2880
gctcgccaac tcctttttat atgtaacaca atatatcaag atctaattgtg agacagtatg	2940
ccagtcccaa gatctgtcaa tatgactgaa gacacattgc gatgttatca ctaaggcagg	3000
agaaggcaag ctacagtga gcccagttca ctataaaagct ttatgagaaa ttagataaga	3060
agggtttcta atttttaaat tttttttatt agatattttc ttcatttaca tttcaaatgc	3120
tatcccaaaa gtcccctata ctccccctc accctgctcc cctaccacc cactcccatt	3180
tcttggccct gggtacttgt gatagtggc atatatgcca ccaagcttta catgctcact	3240
atctgggtcta ttgcaagaat ggctgccgag ctgatgcagt cagatacaga cacctacagc	3300
caaacagtgg aaggaacttg gggactctta tggaagaaaa ggaggaaggg ttatgggccc	3360
cggatgggga aaggaactcc acaggaagac caacatactt ggtcaactaa cctggaccct	3420
tggggctctc agagtctgaa ccaccaacca tagaacattc atgggctgta cccaggcctc	3480
tccactcata tgtaacagat atgtggcttg gccttcatct gggctctgaa caactagatg	3540
ggggttaggg gtggggatgg gggttatctc aaaagctgtt gcctgtatgt gggatatgtt	3600
cttactgagc tgcctagtct ggcctcagt ggagaggaag cacctagctt tagccttgta	3660
aagacttgaa gttctgaggt gtcggtggag ggtatactca gggaggccct cacctgctag	3720
gaagagaaga ggagggggaa gacttggggg agggggcagt gagcaggttg gtaaaatgaa	3780
taagaaaaaa aaaataaaaa taattaaaaa aaaaaaagaa tggtgctga gccctactct	3840
aaaaccattg catccccccc cccaatcat tcagtgacta cgaattaaaa tcattgatac	3900
taacaataga tgtaggaaac tattgttaac ttctttgtga ccacgagtgg tatttgaac	3960
cttttttatt gaagctttca cacagagcct tgttctttca tttccctgta catgcatgta	4020
gcttaatgat gttcagtga ttaaaaaata caatgaagaa taaagacaac tgtattttta	4080
ggattcttcg tatatatatta aaaatctaag gtggtcacct ggaagaaatg tcttcagttt	4140
ttctatatat gtttactcta tcgtatgtta attaattata tgcaataatt cataaaatct	4200
acaacatagt atgtaactta taagaaagta aaacattcat gaaattgtga aggttacttt	4260

tccttaccct cagaaacact gggtttgaat aattcttatt ttggtatcag tgaagaattt 4320  
gaaagaatgt aataacctac taaggcaaac atagaagttg aaattaaaaa gagtagacag 4380  
gagaagtaat aaggcaaata atgaatattt gctttaaata gttcttaatg tatcatctaa 4440  
ctaggggtgtg attctccaga cttgactcca tccaaaatat ccaaaatgac tctaaccaca 4500  
gtcattgaaa caatgtgttg aaaataataa acatttccta cttgaaaatt cagattttctc 4560  
ctactttgct ttttattgct gtgataagca ccatgaccaa agcagcttat 4610

<210> 19  
<211> 424  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> CMF 608-specific oligonucleotide primer

<400> 19  
taagcctttt gctcccgttg gaagcaaaga acgttccttc aatcaggtga aggcctctcct 60  
cagaagattt catgtctcag cttatgttac aagaggattc aaaagcaaga cagaagagct 120  
caggtatagc caactctttt gttaaataca gtatgaggct taagtgtacg gcaactcatg 180  
tggtattcat ttgcggctct cttctcttat aactaactct taagggtgat atagtctctt 240  
ctgtttccca gctaccttgc accatctttg tttatctaata aatagcaagc tcatctgctt 300  
tttaatcatt acgcagagag tattcaaaaa tattcagtga tgtaacagtg acagtgtagg 360  
catagaagta atcattagta aatcttaata tgggttaaac tcattcataa cagctccagg 420  
ttgg 424

<210> 20  
<211> 11962  
<212> DNA  
<213> Mus musculus

<220>  
<221> misc\_feature  
<222> (1)..(11962)  
<223> 'n' can be any nucleotide 'a', 'c', 'g' or 't'.

<400> 20  
tttggaaacca acccagatgc ccctcaacag agaaatgggc cagaaaatgt ggtccattta 60  
tccaatggaa tactactcaa cttattaaaa acaacgactt tcataaaatt tttaggcaaa 120  
tgnatggctct gnaggatctt gagtgaggta acccaatcac aaaagaacac tcatgggatg 180

cactcactga taagtggcta tttgtctatg gagtgattta aaaggggaaga agacacatag	240
ctttttgtgt gtataatatt aagatggaaa tttgccagtgt ctgtttggct tatgagtga	300
tcttgtttca gtggattacc ggaagaaaat aataagtga ctgtaggaag aagtagtta	360
tcaaggtgac aaagtatcct gacacattgg gaaaagacca cagtccagga aactgagtct	420
taaggattca tattaactcc agttcccat gtgcagctct gagactttgg cagatcagac	480
acttaacttc accagcttcc tacacagagc agttactatc cttgccttca cacatggagt	540
gtgccattaa gtgcctgaac atgagtctga cttgttaata atctttaaaa tccaattgtg	600
tgtaaagtat gtgaccaaag agcatggta tgctattaac ctttgatggt ctatggactc	660
ttaattttat ggtagaaatg tcaacaagct tgtggaggct ggaagataca aggcttaaga	720
ggatggcctt tcagttttga aagtaattca gtatgtgttc tggcatccct tttcctaaag	780
caatttaacc cccaagtag gcataatttt aatgcttact tcatcagaat atatctaatt	840
gactcttcta aaaagacttt ggtatgcata ggatctaaat gtaaagtga tttactgaca	900
taataaatag gagaaactga gctagaatag gtataaaata tgtgctggct ttctaatagg	960
tcttataggt tatataagag gtgggaaagg aatatttgaa acatctagaa gtaaaatgat	1020
cctgagtagc gatcctggga aaatacgtac tctaacacac tgcaatcatc tctctgtggt	1080
ttgctggagc tgaggtctgg aaggctcgac cttggttaga aataacctac cgaatacaga	1140
gctatgacgt tagtctggaa ggagctttgg aagaatgaca agctgtagct gcccagaaca	1200
tactagatgc catatttcca aggcaagtgt ccacatgcgg acatcttaag aatatggttg	1260
tctctgcagt gctaaggacc ttgttcgtgc cacacaggctc tccagggtta gtgctaactc	1320
tgactgcttg actctttaat tctcccttga tcattaatga ctagaaatca cttggtgatt	1380
agcaactgga tatggaatat tacttaattt gtaccaagc caggccacct cagctttggc	1440
agctccattc attctgtgga gcccagtcac gtgggtttga atcaactgta ctgtttctac	1500
ttacaagacg cattacctga gatgagtcac ttttcttcac aagtcttttt agaagagtca	1560
attagacata ttctgatgaa gtaagcatat aaagtgaag cagcatgaat gtgttccatg	1620
tatgctcatg gatgctatta taatgtggaa ataaactgac tttaaaaaaa aaagcttatg	1680
atacttgtca cagagtaa atctccataaa tatcatctgc atttataaat tattttcata	1740
atccatcaat taaaaacct tagaaatttt gttaacacaa agatccctag gccctgccc	1800
taggatggct tgtatgggtg gcctgagaga tggagcttaa gaacttactt gctccaggag	1860

cacatcttca gaacatctgc ctcaaaacat ttatcccaaa tgctcatcaa aggctcactc	1920
acatgtgctt caaccacagg gattaaacag tcatttttagt cacattttctc aaacgggtgga	1980
agcctgctag aggaacagga tgtatcagga taacatccaa ccttacaaaa ggatgtcata	2040
accctcacca caacaaacaa caacgacaac aaaccataa aaattatcac ggcaaataa	2100
ctaagccata tgcagaaaaa gtattatatg ttctcattgt ggggtgtttt tccttaatat	2160
tcaaatatgc agaatataga caaagatggt ttatgcaagt ggggatggcg aaggatactt	2220
gtagattaga ggacacaaaag caacaactac agagtgaagt aatccagaga cttaatgtat	2280
aatatgagga ctgtatttaa taattctatt taagatacac agcaaacgag tgtatcttac	2340
taacacacac acttacatag agagaataaa gtgatagata cgtttgtttt atcttcatgt	2400
agctgataat ttcattattgt acacctcaaa catagataac caacaaagag gaagaggata	2460
gggtgcctctc ccagggcgga agagtacatt cgaaagtcag acaccattgt gtagatgtac	2520
cacatggagg agctagagaa agtagccaag gagctaaagg gatctgcaac cctataggtg	2580
gaacaacatt atgagctaac cagtaccccg gagctcttga ctctagctgc atatatatca	2640
aaagatggcc taatcgcca tcaactggaaa gagaggccat tggacttgca aactttatat	2700
gccccagtac aggggaatac cagggccaaa aagggggagt ggggtggcag gggagtggg	2760
gtgggtggat atgggggact tttggtatag cattggaaat gtaaataagt taaataccta	2820
ataaaaaatg gaaaaaaaaa aaaaaaaaaa aaaaaaggaa ggtcagacac ctcaactcac	2880
tgctatctca acttgcaaac agaaggggag tcacaaaacc aggacaaacc acagtgattg	2940
aagcgtcttt gaatgttatt gctgttgttg ttaccaccat cattagcata tattcattgt	3000
gaaaacttac ggggtctatg acatgttttt ttattcaagt atatcacatg ctgtcagcat	3060
atttggcacc actaccagcc ccagccccct ttgccccgcc cccaacacac acacacacac	3120
acacacacac acacacacac acacacacac acacacacac acctttacct tctcctgggc	3180
atcatctgct cactcaccca cccaagctta atccttttcc ttcctgcaa tagtacctct	3240
cctattttta tgtctagggt cccctcccc ctgttaggag atgggagagg tcacgaaaga	3300
aaggaatttg tagcccttga gccagcccgg gccacagagc ctgccaccag acaggaaaag	3360
cccagggtt accagcacag gaggagcaaa ctgcgaggcg agcctgggtt ggcgctggtg	3420
gtcccgggtc gatggccgc ccattcccag aagccgaggc tatagctgcg tcacctgccc	3480
cgccctctc ccgagtgaag acccctagag gctgagcaga ccccaaaggc ggtgcaattc	3540
cattggccca aggcagaggt gagcggctgc taatccccctc ggggaagtga gggaccaga	3600

gagtcctggta gatgtgggag ctgggggttca gggcgagaca gaggggtggga tgggcagaag 3660  
 ggtccaggaa aggaaagtac tggaggggag ttgggacaaa agcagcgacc aagggaacat 3720  
 cgcttcagtg actgaagcca ggcaaaagga gcgggaagga ttatatgtag cctgggacgc 3780  
 ttccataaac actgatgacg tgtttgtgca aagcaagcaa ttgaggaga aacgcctggg 3840  
 acgtcggaaa gaaggagtga tcgattagta cttgtaagtt taggtgagtt tgagaactaa 3900  
 ctaacctata ctattgaggg agaaggaaga gcattccagc agcagcagca gcagcagcaa 3960  
 tcagataaag gaaagctttg gttagtttgg aaatgtatga taccattaaa ataacagaag 4020  
 cgctccagtc tctctgaaga gtcagtcccc cagctagtga agactaagcc tactaagcct 4080  
 ttgtctcccg ttggaagcaa agaacgttcc ttcaatcagg tgaaggctct cctcagaaga 4140  
 ttctctgtct ctgcttatgt tacaagagga ttcaaaagca agacagaaga gctcaggtat 4200  
 tgccaactct tttgttaaata acagtttgag gcttaagtgt acgggaactc atgtggtatt 4260  
 catttacggc tctcttctct tataactaac tcttaagggtg catatagtct cttctgtttc 4320  
 ccagctacct tgtaccatct ttgtttatct aataatagca agctcatctg ctttttaatc 4380  
 atcacgcaga gagtattcaa aaatattcag tgatgtaaca gtgacagtgt aggcatagaa 4440  
 gtaatcatta gtaaacttta atttgggtta aactcattca taacagctcc aggttgggag 4500  
 ggatcactga gccttcgcca cgtgcgggtt aaagatatct tctaacaaga gaagcagaat 4560  
 tcttccttgg ccatgctccc catcactgtg tcagtaagca gaggggtggt tccaagcaga 4620  
 gaaagagcag acagtgttat gcctgcaaag tcagagactc agccctccca gctggtcagt 4680  
 ttactgtcct cccggtcatt agttggctct gaaaaggccc atgtgtcctt attggcaagg 4740  
 acttgcagac atgctagaaa gaaatttgac ctttttttct agtgggttat tacagctgta 4800  
 aaagtatttt ggaagggtta gccaaataaa taaaacacat attaaataat acaatgttac 4860  
 aaaaattgat catataaaga agtacattca taaatgcaat gtgaaaaata tatataattt 4920  
 ttatctatct actggtgcaa agttttctaa attgcacatg tactattttt atatttataa 4980  
 aaatattttt aaaatgtata taaaagtgtt aaaggctctt ggtcaaacaa gagagttaaa 5040  
 ttacaaaact ttaattgtcc cgataacatt attatgatct ctaatgacag ggatcctgct 5100  
 ttccattggg aatgagaag ctatgaagat atgtttacaa taataagccc atttagtgat 5160  
 aaagtccaat gggaagctag cacacactgg ttataaaga gaacagtttc ctgagcttat 5220  
 gcaagtttac actctagga ataagagttc ctctttctcc agatttcact agcatttggt 5280

gtcatcattt atcttcttga tgatgagcat tataagtgga ataagatagg atctcaaagg	5340
aatgtcaatt tggatgccct gaacaatctt tcaggctctt ctttcagttc actagtctat	5400
tcattttattg gataattggg gggatggtgg taattttttt gcagttctta tggaattcca	5460
aaaaacaaaa aacaaaccaa ccaaccaaaa acctctgaaa ctagaactac caatccatta	5520
ctgggtatgt aacaaagaga aatctgcaca gaatttattg ctacattggt cattattcac	5580
gacagccaag aatgtggaac caacttacgt agccgtcaaa atatgaacgg ataaagaaaa	5640
tgtggaaatg tgtacaacag agtcccatgt ggccataaaa gagtgaaatc atgacatatg	5700
caggaaatgg atgcaactgg aaatcaattg ggctaataca aacaagacag actcaaaaag	5760
gaaacaccgt gtagcttctc tgacaaacag aagctagatt tacacttgta cgtgogcatg	5820
tgtgttttaga attttattta gttatacact attctaactc gtgagtgtgt ataaaggcat	5880
gcatgtaaag caaaaacaag ctagctgggg tgggtaggag agaaagcaat gagaggagtt	5940
aataagaacg aagcatagta acataggtgc caggatgaaa tgcattaatt tgtatgctaa	6000
ctaaaccaca gacaggaggc acacgttcaa accagggtga aatcccagca cagagaaggg	6060
gaagtagaca caaagtttct ccactaacca agaagccatt tgcagttgct gcctgctggg	6120
aaggggagtt ccagttttct ccagtctgac actgtgtata acaaccagtt gacaatacaa	6180
agttggcatg atggatggtt tttgtgctat ttttcatttt ttttcttact gttttgttgt	6240
tgtggtggtt gttgtggtgg tggctgtggt tttcatttgt ttcttttgag agagagaagg	6300
aacatgaaat tgggtgggta ggaagctgga aacgatctgg aagaagttgg ggaaagagaa	6360
aaattgtatg gagcatattt aaacaaacaa acaaacaaac aaaaggttca ttttgccaca	6420
aaaagggtgtg aattaaatta accagttacg actcttaaag aaaatattcc caattattcc	6480
cagagttgct atgtatgctg tgcctaggac tttgcttgaa ctggccctat aactctggtg	6540
tgggtgtctt tcaggatgca gaagagaggc agggaagtca gctgcttgct gatctccctc	6600
actgccatct gcctggtggt caccctggg agcagggtct gtccctgccg atgtgctgc	6660
tatgtgcca cagaggtgca ctgtacattt cgggacctga cctccatccc agacgggcat	6720
cccagccaat gtggaacgag tcaatttagg gtgtgtggac cttgcctgat ctctttctca	6780
gagagggacc actgattttc ctggtacttt gcccccaaa cacctgtgat tacttttaat	6840
agttttcttc taaaatgggt tcatacaaac cttatattgt ggagacaatg aacattttat	6900
cccaatagtc ttttactaga acttgaagcc cctcttagtt gtttgggagc ctcataatta	6960
tggggcagct ttattctgaa tgaattttaa atgaaaaaga tacagtttct gttaacaatc	7020



attatgatac caaggaagag gaattgtcat tgaatatttt aaaaaagcat ttcttttgca	7080
atttataaat acccattaca aaatggctta cttaaaatac ttgccttact aaatctgaca	7140
aattatggtg atattttgaa ggtttatgaa aatttggtta tgtgtataaa tgcacaagaa	7200
atgggatatg ccatcaccta tgtgccatta gtgagcatgt acagtatgcc aaacactatt	7260
gttcacgttt ggaggaagta atgggggtgg gggagcaaca agggttataa ccgtataccc	7320
agtgccttgg aagcgattgc aaacagtaaa gactgacatt gtgttctccc tatgaggag	7380
gggccttggg ctgagcactt tgcaatgagc atttgctcat tgtgctggca ggttttatga	7440
taacttgacc caagctagag tcaactgaga ggaaggaact tcaactgaga acatgcctga	7500
agaagatcag attataggca ggcctgtggg gcattttctt aattagtgat tcatggggca	7560
gggcccagtc cattgttcgt ggtaccattt ctcaggcact attaaaaaa aaaaaacagg	7620
ctgagcaagt gtcaaggagc aagtcagtga gcagcagccc taatgatctc tgcacagct	7680
cctgcctcca ggttctacc ctatttgagt tctgtccta gctccctaca gtgatgaaca	7740
atgatgtgga agtataagcc aaataaatcc tttcttcccc aacttgctgt tggcatgat	7800
gtttcatcac agtgataata gtcctcatga agatgctggg gtttataaca cctttggact	7860
aaattctgtt atctatagct gaggaatg gagcatagaa agtctccaga ctacaccaga	7920
gtgtaatctg ggcctgagct tagaatcaca cccacgtgca ctccactgcc ggggttctt	7980
aaccggaaca cagttgtaaa agggaatttt ctgtttgttt ccattttgac atgtggactt	8040
taattgacga ttcattctgaa gctgaaaatg attttttttc cagggtataac agcctcacta	8100
gattgacaga aaatgacttt tctggcctga gcagactgga gttactcatg ctgcacagca	8160
atggcattca cagagtcagt gacaagacct tctcgggctt gcagtccttg caggtgagat	8220
aggtagaggg tgatggaggc tgagaagaga ggtgcaactg tgggttatac ccaaaagctg	8280
ctgattcccc tgggagacat tctataagca ttctataaac tagaggcaga tatcaaggaa	8340
ggatttcaat tgtaatgcaa ttttatgaga aaatttgaat attaagaaaa tgctggggaa	8400
aatgcttaca caattgagag gacctaattt aggatctcca atagccacat aaaaagcaca	8460
gcatggcggc agacacctgc aattcctgtc cctggaagca cctgttcaga atcccagaga	8520
ctcattggcc aaacactcta ttcaatcaat gaagtccata ttcagtgaca aaacttgact	8580
cagaaactaa tgtggaaagc atcaggaaga cagccaacat ctggtctcta ctcatgcatg	8640
aataagggat cccagagaga agggaagaaa aagggaaggaa ggaaggaagg aagggaaggaa	8700

ggaaggaagg aaggaaggaa ggaagagagg gaggaaggaa gggaggggaag gaaggaaagg	8760
gaaaggaaaa aagagatggg gagggagggg aggaaaggaa aggggggagaa agaagagaag	8820
aaaggaaaaat aaataaattt tcagggatta ttacaccttt aaattttatc cataaaaggt	8880
catttccacc tgtttgtctg gaagtagagt gggatccctt atataagggc agtctttaac	8940
atagtagcat ttataaacc attacaaatt ttgagttttc tctacttttt atcctctacc	9000
atcttcaaac tgaaactaca attattccca caaatgaaga aaatgctgta agagttttca	9060
cacaccgaag tgggaaactt aaggattaga caagtctaac aatgagaatg gggagaacaa	9120
aaagagactg cacagggagc cttttctctg cttataatct tgacacttga gaagctaatt	9180
gacgctgcat gactactcaa ctctttaagc aaacaatgct gttgttcatg aaaagcacia	9240
taaagtacat atgtcccata atattcatca aaatttgcac gcagcacata atagcaatca	9300
aagcaataac acccactgtt cacagagact ttaaactatga aactggaact atgtctagt	9360
ttttgactta gggtacatag tatgctgtgt ctgtatgtac caatgttgat ttaggtcatc	9420
agacagcatt tggaacatgt atcttcagga ggaatcattc atgtatcctg catgaaattc	9480
tccacctatg tttattctct tagccagggt tttctctgat ggagaaacat tgggtttgag	9540
gttttactcc caggtaacat ttagggaaaa gctgtctatg ttctcagttt ggctttttatt	9600
tatgagggat gttggtattc cagaaaattc tcttttgaag agattacaat ttaggtcaaa	9660
acagaaaaat atgtaaaaag ttattgtttt tattagtatt tcatgttctt ttctttttta	9720
aaaatggtat gcttagaact aattaagatt agattagatt agattagaaa ataatcagag	9780
agggatttga tgaatgctaa agcatcatga aaaattcaaa attttttgct tctaattcag	9840
aatcaattaa attcatatta ctataaaaga cagcacgcca gatgtgtgcc agctgaggag	9900
tggataaact gtgtaacgtg agtgctatgt agaaacagaa aggagtgaag ggttgatgtg	9960
cgctgcaaca tcttgaaaac attcggctac atgatggaag ccaggcacia aaagccacat	10020
attgcatggg tatgtttata tgaaatgttt aaaatacatg gattcttagc aaacagagta	10080
agatgttact tagggtcagg aaaagattaa aaaaaaaaaa actattgatg tggaatgatc	10140
ttaatttggg gaaaagacia ttctctaaga cgaaatagtt gaggtagata tagttatatc	10200
cctgtggata ttgtaataaa ccagcatgct gtgctctgag aagggcctaa tgaaggggca	10260
ggaggaagtg aaatgagatg gtagaaagga aagtcataa ccatggcttc tctcgtgggt	10320
ggaatctaga tatgttaata tattgacata aaggaaggaa ttgtttaggg aaggatcaaa	10380
accaacagga gtgagggaga caataggaac caatgagagg caaagttcat ggtcaatgtg	10440

tgtggagaca ccataataaa actccttttt tgtttgctaa ctaaaaccac taaaatctaa 10500  
aaacaaaaca tttttgcaca agaattatth attattcaat aaagatgttt aaatggggga 10560  
agttgaagtt cattgatagt ctcataaatc ttaaattgat ttaaactgct ttttacgttt 10620  
tttattatta attactcttg ctgtcattat tatcatcatc attatcgtca tcatcatcac 10680  
taatgctttt caccatacac aaatgtaggc agaagagtgt aatccactta gtgaggcaat 10740  
cttggagagg gaaaggaagc ggatgcgggg cagaggcaca caggaggaca gtgagaggga 10800  
aatgaacaag aaaaaatgtg gacacatgca caaaaattcc atagtccact acattacttt 10860  
gtatttctaatt attaagaaaa taataaaccc atttctgtgc acttatcacc caggctcaac 10920  
agttatcttg gccacagatc ctgtctcact gcctcctgtc cacctgagtc cacttagcgt 10980  
tctgaatcca atccagggca tgatgcttac tcctacacag aactaaagat taaagagagt 11040  
ttaaaagtaa ccatgacatc tctctgttcc tttagcgata agttcttaatt atttatggct 11100  
gcttgtgtat gttctaattt ctctaattt gtcacattta gttggcaact actttgtttg 11160  
aattgagttg gagttaaggt cccataggat taatctcaac atatttctat atttataaac 11220  
ttttctctct ttgtgaaagt tcctttgaga aaacaaatat gccatatct ttctttacag 11280  
gtcttaaaaa tgagctataa caaagtccaa ataattgaga aggatacttt gtatggactc 11340  
aggagcttga cccggttgca cctggatcac aacaacattg agtttatcaa ccccgaggcg 11400  
ttttacggac tcaccttgct ccgcttggtta catctagaag gaaaccggct gacaaagctc 11460  
catccagaca catttgcttc tttgagctat ctccagatat ttaaaacctc cttcattaag 11520  
nacctgtact tgtatgataa cttcattgac ctccctccca aaagaaatgg tctcctctat 11580  
gccaaacctc gaaagccttt acttgcatgg aaacctatgg acctgtgact gccatttaaa 11640  
gtggttgctc gagtggatgc agggaaacct aggttaactat cttgtttgtt tgtttctttt 11700  
tttatarkac gtattttcct caatttcatt tagaatgata tcccaaaagt cccccataac 11760  
ctccccccca cttccctacc taccattcc catttttttg cctggcatt cccctgtact 11820  
ggggcatata aagtttgct gtccaatgga cctctctttc cagtgatggc caactaggcc 11880  
atcttttgat acatatgcag ctagagtcaa gagctctggg gtactgggta gttcataatg 11940  
ttgttgacc tacagggttg aa 11962

<210> 21  
<211> 2828  
<212> PRT

<213> homo sapiens

<400> 21

Met Pro Lys Arg Ala His Trp Gly Ala Leu Ser Val Val Leu Ile Leu  
1 5 10 15  
Leu Trp Gly His Pro Arg Val Ala Leu Ala Cys Pro His Pro Cys Ala  
20 25 30  
Cys Tyr Val Pro Ser Glu Val His Cys Thr Phe Arg Ser Leu Ala Ser  
35 40 45  
Val Pro Ala Gly Ile Ala Arg His Val Glu Arg Ile Asn Leu Gly Phe  
50 55 60  
Asn Ser Ile Gln Ala Leu Ser Glu Thr Ser Phe Ala Gly Leu Thr Lys  
65 70 75 80  
Leu Glu Leu Leu Met Ile His Gly Asn Glu Ile Pro Ser Ile Pro Asp  
85 90 95  
Gly Ala Leu Arg Asp Leu Ser Ser Leu Gln Val Phe Lys Phe Ser Tyr  
100 105 110  
Asn Lys Leu Arg Val Ile Thr Gly Gln Thr Leu Gln Gly Leu Ser Asn  
115 120 125  
Leu Met Arg Leu His Ile Asp His Asn Lys Ile Glu Phe Ile His Pro  
130 135 140  
Gln Ala Phe Asn Gly Leu Thr Ser Leu Arg Leu Leu His Leu Glu Gly  
145 150 155 160  
Asn Leu Leu His Gln Leu His Pro Ser Thr Phe Ser Thr Phe Thr Phe  
165 170 175  
Leu Asp Tyr Phe Arg Leu Ser Thr Ile Arg His Leu Tyr Leu Ala Glu  
180 185 190  
Asn Met Val Arg Thr Leu Pro Ala Ser Met Leu Arg Asn Met Pro Leu  
195 200 205  
Leu Glu Asn Leu Tyr Leu Gln Gly Asn Pro Trp Thr Cys Asp Cys Glu  
210 215 220  
Met Arg Trp Phe Leu Glu Trp Asp Ala Lys Ser Arg Gly Ile Leu Lys  
225 230 235 240  
Cys Lys Lys Asp Lys Ala Tyr Glu Gly Gly Gln Leu Cys Ala Met Cys  
245 250 255  
Phe Ser Pro Lys Lys Leu Tyr Lys His Glu Ile His Lys Leu Lys Asp  
260 265 270  
Met Thr Cys Leu Lys Pro Ser Ile Glu Ser Pro Leu Arg Gln Asn Arg  
275 280 285

Ser	Arg	Ser	Ile	Glu	Glu	Glu	Gln	Glu	Gln	Glu	Glu	Asp	Gly	Gly	Ser	
290						295				300						
Gln	Leu	Ile	Leu	Glu	Lys	Phe	Gln	Leu	Pro	Gln	Trp	Ser	Ile	Ser	Leu	
305					310					315					320	
Asn	Met	Thr	Asp	Glu	His	Gly	Asn	Met	Val	Asn	Leu	Val	Cys	Asp	Ile	
				325				330					335			
Lys	Lys	Pro	Met	Asp	Val	Tyr	Lys	Ile	His	Leu	Asn	Gln	Thr	Asp	Pro	
			340				345					350				
Pro	Asp	Ile	Asp	Ile	Asn	Ala	Thr	Val	Ala	Leu	Asp	Phe	Glu	Cys	Pro	
		355				360					365					
Met	Thr	Arg	Glu	Asn	Tyr	Glu	Lys	Leu	Trp	Lys	Leu	Ile	Ala	Tyr	Tyr	
370					375					380						
Ser	Glu	Val	Pro	Val	Lys	Leu	His	Arg	Glu	Leu	Met	Leu	Ser	Lys	Asp	
385					390					395					400	
Pro	Arg	Val	Ser	Tyr	Gln	Tyr	Arg	Gln	Asp	Ala	Asp	Glu	Glu	Ala	Leu	
			405					410					415			
Tyr	Tyr	Thr	Gly	Val	Arg	Ala	Gln	Ile	Leu	Ala	Glu	Pro	Glu	Trp	Val	
			420				425					430				
Met	Gln	Pro	Ser	Ile	Asp	Ile	Gln	Leu	Asn	Arg	Arg	Gln	Ser	Thr	Ala	
	435					440					445					
Lys	Lys	Val	Leu	Leu	Ser	Tyr	Tyr	Thr	Gln	Tyr	Ser	Gln	Thr	Ile	Ser	
	450					455				460						
Thr	Lys	Asp	Thr	Arg	Gln	Ala	Arg	Gly	Arg	Ser	Trp	Val	Met	Ile	Glu	
465					470					475					480	
Pro	Ser	Gly	Ala	Val	Gln	Arg	Asp	Gln	Thr	Val	Leu	Glu	Gly	Gly	Pro	
			485				490						495			
Cys	Gln	Leu	Ser	Cys	Asn	Val	Lys	Ala	Ser	Glu	Ser	Pro	Ser	Ile	Phe	
			500				505					510				
Trp	Val	Leu	Pro	Asp	Gly	Ser	Ile	Leu	Lys	Ala	Pro	Met	Asp	Asp	Pro	
	515					520				525						
Asp	Ser	Lys	Phe	Ser	Ile	Leu	Ser	Ser	Gly	Trp	Leu	Arg	Ile	Lys	Ser	
	530				535					540						
Met	Glu	Pro	Ser	Asp	Ser	Gly	Leu	Tyr	Gln	Cys	Ile	Ala	Gln	Val	Arg	
545					550					555					560	
Asp	Glu	Met	Asp	Arg	Met	Val	Tyr	Arg	Val	Leu	Val	Gln	Ser	Pro	Ser	
			565				570						575			
Thr	Gln	Pro	Ala	Glu	Lys	Asp	Thr	Val	Thr	Ile	Gly	Lys	Asn	Pro	Gly	
			580				585					590				

Glu Ser Val Thr Leu Pro Cys Asn Ala Leu Ala Ile Pro Glu Ala His  
595 600 605

Leu Ser Trp Ile Leu Pro Asn Arg Arg Ile Ile Asn Asp Leu Ala Asn  
610 615 620

Thr Ser His Val Tyr Met Leu Pro Asn Gly Thr Leu Ser Ile Pro Lys  
625 630 635 640

Val Gln Val Ser Asp Ser Gly Tyr Tyr Arg Cys Val Ala Val Asn Gln  
645 650 655

Gln Gly Ala Asp His Phe Thr Val Gly Ile Thr Val Thr Lys Lys Gly  
660 665 670

Ser Gly Leu Pro Ser Lys Arg Gly Arg Arg Pro Gly Ala Lys Ala Leu  
675 680 685

Ser Arg Val Arg Glu Asp Ile Val Glu Asp Glu Gly Gly Ser Gly Met  
690 695 700

Gly Asp Glu Glu Asn Thr Ser Arg Arg Leu Leu His Pro Lys Asp Gln  
705 710 715 720

Glu Val Phe Leu Lys Thr Lys Asp Asp Ala Ile Asn Gly Asp Lys Lys  
725 730 735

Ala Lys Lys Gly Arg Arg Lys Leu Lys Leu Trp Lys His Ser Glu Lys  
740 745 750

Glu Pro Glu Thr Asn Val Ala Glu Gly Arg Arg Val Phe Glu Ser Arg  
755 760 765

Arg Arg Ile Asn Met Ala Asn Lys Gln Ile Asn Pro Glu Arg Trp Ala  
770 775 780

Asp Ile Leu Ala Lys Val Arg Gly Lys Asn Leu Pro Lys Gly Thr Glu  
785 790 795 800

Val Pro Pro Leu Ile Lys Thr Thr Ser Pro Pro Ser Leu Ser Leu Glu  
805 810 815

Val Thr Pro Pro Phe Pro Ala Val Ser Pro Pro Ser Ala Ser Pro Val  
820 825 830

Gln Thr Val Thr Ser Ala Glu Glu Ser Ser Ala Asp Val Pro Leu Leu  
835 840 845

Gly Glu Glu Glu His Val Leu Gly Thr Ile Ser Ser Ala Ser Met Gly  
850 855 860

Leu Glu His Asn His Asn Gly Val Ile Leu Val Glu Pro Glu Val Thr  
865 870 875 880

Ser Thr Pro Leu Glu Glu Val Val Asp Asp Leu Ser Glu Lys Thr Glu  
885 890 895

Glu Ile Thr Ser Thr Glu Gly Asp Leu Lys Gly Thr Ala Ala Pro Thr  
 900 905 910  
 Leu Ile Ser Glu Pro Tyr Glu Pro Ser Pro Thr Leu His Thr Leu Asp  
 915 920 925  
 Thr Val Tyr Glu Lys Pro Thr His Glu Glu Thr Ala Thr Glu Gly Trp  
 930 935 940  
 Ser Ala Ala Asp Val Gly Ser Ser Pro Glu Pro Thr Ser Ser Glu Tyr  
 945 950 955 960  
 Glu Pro Pro Leu Asp Ala Val Ser Leu Ala Glu Ser Glu Pro Met Gln  
 965 970 975  
 Tyr Phe Asp Pro Asp Leu Glu Thr Lys Ser Gln Pro Asp Glu Asp Lys  
 980 985 990  
 Met Lys Glu Asp Thr Phe Ala His Leu Thr Pro Thr Pro Thr Ile Trp  
 995 1000 1005  
 Val Asn Asp Ser Ser Thr Ser Gln Leu Phe Glu Asp Ser Thr Ile  
 1010 1015 1020  
 Gly Glu Pro Gly Val Pro Gly Gln Ser His Leu Gln Gly Leu Thr  
 1025 1030 1035  
 Asp Asn Ile His Leu Val Lys Ser Ser Leu Ser Thr Gln Asp Thr  
 1040 1045 1050  
 Leu Leu Ile Lys Lys Gly Met Lys Glu Met Ser Gln Thr Leu Gln  
 1055 1060 1065  
 Gly Gly Asn Met Leu Glu Gly Asp Pro Thr His Ser Arg Ser Ser  
 1070 1075 1080  
 Glu Ser Glu Gly Gln Glu Ser Lys Ser Ile Thr Leu Pro Asp Ser  
 1085 1090 1095  
 Thr Leu Gly Ile Met Ser Ser Met Ser Pro Val Lys Lys Pro Ala  
 1100 1105 1110  
 Glu Thr Thr Val Gly Thr Leu Leu Asp Lys Asp Thr Thr Thr Val  
 1115 1120 1125  
 Thr Thr Thr Pro Arg Gln Lys Val Ala Pro Ser Ser Thr Met Ser  
 1130 1135 1140  
 Thr His Pro Ser Arg Arg Arg Pro Asn Gly Arg Arg Arg Leu Arg  
 1145 1150 1155  
 Pro Asn Lys Phe Arg His Arg His Lys Gln Thr Pro Pro Thr Thr  
 1160 1165 1170  
 Phe Ala Pro Ser Glu Thr Phe Ser Thr Gln Pro Thr Gln Ala Pro  
 1175 1180 1185

Asp	Ile	Lys	Ile	Ser	Ser	Gln	Val	Glu	Ser	Ser	Leu	Val	Pro	Thr
1190						1195					1200			
Ala	Trp	Val	Asp	Asn	Thr	Val	Asn	Thr	Pro	Lys	Gln	Leu	Glu	Met
1205						1210					1215			
Glu	Lys	Asn	Ala	Glu	Pro	Thr	Ser	Lys	Gly	Thr	Pro	Arg	Arg	Lys
1220						1225					1230			
His	Gly	Lys	Arg	Pro	Asn	Lys	His	Arg	Tyr	Thr	Pro	Ser	Thr	Val
1235						1240					1245			
Ser	Ser	Arg	Ala	Ser	Gly	Ser	Lys	Pro	Ser	Pro	Ser	Pro	Glu	Asn
1250						1255					1260			
Lys	His	Arg	Asn	Ile	Val	Thr	Pro	Ser	Ser	Glu	Thr	Ile	Leu	Leu
1265						1270					1275			
Pro	Arg	Thr	Val	Ser	Leu	Lys	Thr	Glu	Gly	Pro	Tyr	Asp	Ser	Leu
1280						1285					1290			
Asp	Tyr	Met	Thr	Thr	Thr	Arg	Lys	Ile	Tyr	Ser	Ser	Tyr	Pro	Lys
1295						1300					1305			
Val	Gln	Glu	Thr	Leu	Pro	Val	Thr	Tyr	Lys	Pro	Thr	Ser	Asp	Gly
1310						1315					1320			
Lys	Glu	Ile	Lys	Asp	Asp	Val	Ala	Thr	Asn	Val	Asp	Lys	His	Lys
1325						1330					1335			
Ser	Asp	Ile	Leu	Val	Thr	Gly	Glu	Ser	Ile	Thr	Asn	Ala	Ile	Pro
1340						1345					1350			
Thr	Ser	Arg	Ser	Leu	Val	Ser	Thr	Met	Gly	Glu	Phe	Lys	Glu	Glu
1355						1360					1365			
Ser	Ser	Pro	Val	Gly	Phe	Pro	Gly	Thr	Pro	Thr	Trp	Asn	Pro	Ser
1370						1375					1380			
Arg	Thr	Ala	Gln	Pro	Gly	Arg	Leu	Gln	Thr	Asp	Ile	Pro	Val	Thr
1385						1390					1395			
Thr	Ser	Gly	Glu	Asn	Leu	Thr	Asp	Pro	Pro	Leu	Leu	Lys	Glu	Leu
1400						1405					1410			
Glu	Asp	Val	Asp	Phe	Thr	Ser	Glu	Phe	Leu	Ser	Ser	Leu	Thr	Val
1415						1420					1425			
Ser	Thr	Pro	Phe	His	Gln	Glu	Glu	Ala	Gly	Ser	Ser	Thr	Thr	Leu
1430						1435					1440			
Ser	Ser	Ile	Lys	Val	Glu	Val	Ala	Ser	Ser	Gln	Ala	Glu	Thr	Thr
1445						1450					1455			
Thr	Leu	Asp	Gln	Asp	His	Leu	Glu	Thr	Thr	Val	Ala	Ile	Leu	Leu
1460						1465					1470			



Ser	Glu	Thr	Arg	Pro	Gln	Asn	His	Thr	Pro	Thr	Ala	Ala	Arg	Met
1475						1480					1485			
Lys	Glu	Pro	Ala	Ser	Ser	Ser	Pro	Ser	Thr	Ile	Leu	Met	Ser	Leu
1490						1495					1500			
Gly	Gln	Thr	Thr	Thr	Thr	Lys	Pro	Ala	Leu	Pro	Ser	Pro	Arg	Ile
1505						1510					1515			
Ser	Gln	Ala	Ser	Arg	Asp	Ser	Lys	Glu	Asn	Val	Phe	Leu	Asn	Tyr
1520						1525					1530			
Val	Gly	Asn	Pro	Glu	Thr	Glu	Ala	Thr	Pro	Val	Asn	Asn	Glu	Gly
1535						1540					1545			
Thr	Gln	His	Met	Ser	Gly	Pro	Asn	Glu	Leu	Ser	Thr	Pro	Ser	Ser
1550						1555					1560			
Asp	Arg	Asp	Ala	Phe	Asn	Leu	Ser	Thr	Lys	Leu	Glu	Leu	Glu	Lys
1565						1570					1575			
Gln	Val	Phe	Gly	Ser	Arg	Ser	Leu	Pro	Arg	Gly	Pro	Asp	Ser	Gln
1580						1585					1590			
Arg	Gln	Asp	Gly	Arg	Val	His	Ala	Ser	His	Gln	Leu	Thr	Arg	Val
1595						1600					1605			
Pro	Ala	Lys	Pro	Ile	Leu	Pro	Thr	Ala	Thr	Val	Arg	Leu	Pro	Glu
1610						1615					1620			
Met	Ser	Thr	Gln	Ser	Ala	Ser	Arg	Tyr	Phe	Val	Thr	Ser	Gln	Ser
1625						1630					1635			
Pro	Arg	His	Trp	Thr	Asn	Lys	Pro	Glu	Ile	Thr	Thr	Tyr	Pro	Ser
1640						1645					1650			
Gly	Ala	Leu	Pro	Glu	Asn	Lys	Gln	Phe	Thr	Thr	Pro	Arg	Leu	Ser
1655						1660					1665			
Ser	Thr	Thr	Ile	Pro	Leu	Pro	Leu	His	Met	Ser	Lys	Pro	Ser	Ile
1670						1675					1680			
Pro	Ser	Lys	Phe	Thr	Asp	Arg	Arg	Thr	Asp	Gln	Phe	Asn	Gly	Tyr
1685						1690					1695			
Ser	Lys	Val	Phe	Gly	Asn	Asn	Asn	Ile	Pro	Glu	Ala	Arg	Asn	Pro
1700						1705					1710			
Val	Gly	Lys	Pro	Pro	Ser	Pro	Arg	Ile	Pro	His	Tyr	Ser	Asn	Gly
1715						1720					1725			
Arg	Leu	Pro	Phe	Phe	Thr	Asn	Lys	Thr	Leu	Ser	Phe	Pro	Gln	Leu
1730						1735					1740			
Gly	Val	Thr	Arg	Arg	Pro	Gln	Ile	Pro	Thr	Ser	Pro	Ala	Pro	Val
1745						1750					1755			

Met	Arg	Glu	Arg	Lys	Val	Ile	Pro	Gly	Ser	Tyr	Asn	Arg	Ile	His
1760						1765					1770			
Ser	His	Ser	Thr	Phe	His	Leu	Asp	Phe	Gly	Pro	Pro	Ala	Pro	Pro
1775						1780					1785			
Leu	Leu	His	Thr	Pro	Gln	Thr	Thr	Gly	Ser	Pro	Ser	Thr	Asn	Leu
1790						1795					1800			
Gln	Asn	Ile	Pro	Met	Val	Ser	Ser	Thr	Gln	Ser	Ser	Ile	Ser	Phe
1805						1810					1815			
Ile	Thr	Ser	Ser	Val	Gln	Ser	Ser	Gly	Ser	Phe	His	Gln	Ser	Ser
1820						1825					1830			
Ser	Lys	Phe	Phe	Ala	Gly	Gly	Pro	Pro	Ala	Ser	Lys	Phe	Trp	Ser
1835						1840					1845			
Leu	Gly	Glu	Lys	Pro	Gln	Ile	Leu	Thr	Lys	Ser	Pro	Gln	Thr	Val
1850						1855					1860			
Ser	Val	Thr	Ala	Glu	Thr	Asp	Thr	Val	Phe	Pro	Cys	Glu	Ala	Thr
1865						1870					1875			
Gly	Lys	Pro	Lys	Pro	Phe	Val	Thr	Trp	Thr	Lys	Val	Ser	Thr	Gly
1880						1885					1890			
Ala	Leu	Met	Thr	Pro	Asn	Thr	Arg	Ile	Gln	Arg	Phe	Glu	Val	Leu
1895						1900					1905			
Lys	Asn	Gly	Thr	Leu	Val	Ile	Arg	Lys	Val	Gln	Val	Gln	Asp	Arg
1910						1915					1920			
Gly	Gln	Tyr	Met	Cys	Thr	Ala	Ser	Asn	Leu	His	Gly	Leu	Asp	Arg
1925						1930					1935			
Met	Val	Val	Leu	Leu	Ser	Val	Thr	Val	Gln	Gln	Pro	Gln	Ile	Leu
1940						1945					1950			
Ala	Ser	His	Tyr	Gln	Asp	Val	Thr	Val	Tyr	Leu	Gly	Asp	Thr	Ile
1955						1960					1965			
Ala	Met	Glu	Cys	Leu	Ala	Lys	Gly	Thr	Pro	Ala	Pro	Gln	Ile	Ser
1970						1975					1980			
Trp	Ile	Phe	Pro	Asp	Arg	Arg	Val	Trp	Gln	Thr	Val	Ser	Pro	Val
1985						1990					1995			
Glu	Ser	Arg	Ile	Thr	Leu	His	Glu	Asn	Arg	Thr	Leu	Ser	Ile	Lys
2000						2005					2010			
Glu	Ala	Ser	Phe	Ser	Asp	Arg	Gly	Val	Tyr	Lys	Cys	Val	Ala	Ser
2015						2020					2025			
Asn	Ala	Ala	Gly	Ala	Asp	Ser	Leu	Ala	Ile	Arg	Leu	His	Val	Ala
2030						2035					2040			

Ala	Leu	Pro	Pro	Val	Ile	His	Gln	Glu	Lys	Leu	Glu	Asn	Ile	Ser
2045						2050					2055			
Leu	Pro	Pro	Gly	Leu	Ser	Ile	His	Ile	His	Cys	Thr	Ala	Lys	Ala
2060						2065					2070			
Ala	Pro	Leu	Pro	Ser	Val	Arg	Trp	Val	Leu	Gly	Asp	Gly	Thr	Gln
2075						2080					2085			
Ile	Arg	Pro	Ser	Gln	Phe	Leu	His	Gly	Asn	Leu	Phe	Val	Phe	Pro
2090						2095					2100			
Asn	Gly	Thr	Leu	Tyr	Ile	Arg	Asn	Leu	Ala	Pro	Lys	Asp	Ser	Gly
2105						2110					2115			
Arg	Tyr	Glu	Cys	Val	Ala	Ala	Asn	Leu	Val	Gly	Ser	Ala	Arg	Arg
2120						2125					2130			
Thr	Val	Gln	Leu	Asn	Val	Gln	Arg	Ala	Ala	Ala	Asn	Ala	Arg	Ile
2135						2140					2145			
Thr	Gly	Thr	Ser	Pro	Arg	Arg	Thr	Asp	Val	Arg	Tyr	Gly	Gly	Thr
2150						2155					2160			
Leu	Lys	Leu	Asp	Cys	Ser	Ala	Ser	Gly	Asp	Pro	Trp	Pro	Arg	Ile
2165						2170					2175			
Leu	Trp	Arg	Leu	Pro	Ser	Lys	Arg	Met	Ile	Asp	Ala	Leu	Phe	Ser
2180						2185					2190			
Phe	Asp	Ser	Arg	Ile	Lys	Val	Phe	Ala	Asn	Gly	Thr	Leu	Val	Val
2195						2200					2205			
Lys	Ser	Val	Thr	Asp	Lys	Asp	Ala	Gly	Asp	Tyr	Leu	Cys	Val	Ala
2210						2215					2220			
Arg	Asn	Lys	Val	Gly	Asp	Asp	Tyr	Val	Val	Leu	Lys	Val	Asp	Val
2225						2230					2235			
Val	Met	Lys	Pro	Ala	Lys	Ile	Glu	His	Lys	Glu	Glu	Asn	Asp	His
2240						2245					2250			
Lys	Val	Phe	Tyr	Gly	Gly	Asp	Leu	Lys	Val	Asp	Cys	Val	Ala	Thr
2255						2260					2265			
Gly	Leu	Pro	Asn	Pro	Glu	Ile	Ser	Trp	Ser	Leu	Pro	Asp	Gly	Ser
2270						2275					2280			
Leu	Val	Asn	Ser	Phe	Met	Gln	Ser	Asp	Asp	Ser	Gly	Gly	Arg	Thr
2285						2290					2295			
Lys	Arg	Tyr	Val	Val	Phe	Asn	Asn	Gly	Thr	Leu	Tyr	Phe	Asn	Glu
2300						2305					2310			
Val	Gly	Met	Arg	Glu	Glu	Gly	Asp	Tyr	Thr	Cys	Phe	Ala	Glu	Asn
2315						2320					2325			

Gln Val	Gly Lys Asp Glu Met	Arg Val Arg Val Lys	Val Val Thr
2330	2335	2340	
Ala Pro	Ala Thr Ile Arg Asn	Lys Thr Tyr Leu Ala	Val Gln Val
2345	2350	2355	
Pro Tyr	Gly Asp Val Val Thr	Val Ala Cys Glu Ala	Lys Gly Glu
2360	2365	2370	
Pro Met	Pro Lys Val Thr Trp	Leu Ser Pro Thr Asn	Lys Val Ile
2375	2380	2385	
Pro Thr	Ser Ser Glu Lys Tyr	Gln Ile Tyr Gln Asp	Gly Thr Leu
2390	2395	2400	
Leu Ile	Gln Lys Ala Gln Arg	Ser Asp Ser Gly Asn	Tyr Thr Cys
2405	2410	2415	
Leu Val	Arg Asn Ser Ala Gly	Glu Asp Arg Lys Thr	Val Trp Ile
2420	2425	2430	
His Val	Asn Val Gln Pro Pro	Lys Ile Asn Gly Asn	Pro Asn Pro
2435	2440	2445	
Ile Thr	Thr Val Arg Glu Ile	Ala Ala Gly Gly Ser	Arg Lys Leu
2450	2455	2460	
Ile Asp	Cys Lys Ala Glu Gly	Ile Pro Thr Pro Arg	Val Leu Trp
2465	2470	2475	
Ala Phe	Pro Glu Gly Val Val	Leu Pro Ala Pro Tyr	Tyr Gly Asn
2480	2485	2490	
Arg Ile	Thr Val His Gly Asn	Gly Ser Leu Asp Ile	Arg Ser Leu
2495	2500	2505	
Arg Lys	Ser Asp Ser Val Gln	Leu Val Cys Met Ala	Arg Asn Glu
2510	2515	2520	
Gly Gly	Glu Ala Arg Leu Ile	Val Gln Leu Thr Val	Leu Glu Pro
2525	2530	2535	
Met Glu	Lys Pro Ile Phe His	Asp Pro Ile Ser Glu	Lys Ile Thr
2540	2545	2550	
Ala Met	Ala Gly His Thr Ile	Ser Leu Asn Cys Ser	Ala Ala Gly
2555	2560	2565	
Thr Pro	Thr Pro Ser Leu Val	Trp Val Leu Pro Asn	Gly Thr Asp
2570	2575	2580	
Leu Gln	Ser Gly Gln Gln Leu	Gln Arg Phe Tyr His	Lys Ala Asp
2585	2590	2595	
Gly Met	Leu His Ile Ser Gly	Leu Ser Ser Val Asp	Ala Gly Ala
2600	2605	2610	

Tyr Arg Cys Val Ala Arg Asn Ala Ala Gly His Thr Glu Arg Leu  
 2615 2620 2625

Val Ser Leu Lys Val Gly Leu Lys Pro Glu Ala Asn Lys Gln Tyr  
 2630 2635 2640

His Asn Leu Val Ser Ile Ile Asn Gly Glu Thr Leu Lys Leu Pro  
 2645 2650 2655

Cys Thr Pro Pro Gly Ala Gly Gln Gly Arg Phe Ser Trp Thr Leu  
 2660 2665 2670

Pro Asn Gly Met His Leu Glu Gly Pro Gln Thr Leu Gly Arg Val  
 2675 2680 2685

Ser Leu Leu Asp Asn Gly Thr Leu Thr Val Arg Glu Ala Ser Val  
 2690 2695 2700

Phe Asp Arg Gly Thr Tyr Val Cys Arg Met Glu Thr Glu Tyr Gly  
 2705 2710 2715

Pro Ser Val Thr Ser Ile Pro Val Ile Val Ile Ala Tyr Pro Pro  
 2720 2725 2730

Arg Ile Thr Ser Glu Pro Thr Pro Val Ile Tyr Thr Arg Pro Gly  
 2735 2740 2745

Asn Thr Val Lys Leu Asn Cys Met Ala Met Gly Ile Pro Lys Ala  
 2750 2755 2760

Asp Ile Thr Trp Glu Leu Pro Asp Lys Ser His Leu Lys Ala Gly  
 2765 2770 2775

Val Gln Ala Arg Leu Tyr Gly Asn Arg Phe Leu His Pro Gln Gly  
 2780 2785 2790

Ser Leu Thr Ile Gln His Ala Thr Gln Arg Asp Ala Gly Phe Tyr  
 2795 2800 2805

Lys Cys Met Ala Lys Asn Ile Leu Gly Ser Asp Ser Lys Thr Thr  
 2810 2815 2820

Tyr Ile His Val Phe  
 2825

<210> 22  
 <211> 9645  
 <212> DNA  
 <213> homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(9645)  
 <223> 'n' can be any nucleotide 'a', 'c', 'g' or 't'.

<400> 22  
atgcccaagc gcgcgcactg gggggccctc tccgtggtgc tgatcctgct ttggggccat 60  
ccgcgagtgg cgctggcctg cccgcatcct tgtgcctgct acgtccccag cgaggtccac 120  
tgcacgttcc gatccctggc ttccgtgcc gctggcattg ctagacacgt ggaaagaatc 180  
aatttggggt ttaatagcat acaggccctg tcagaaacct catttgcagg actgaccaag 240  
ttggagctac ttatgattca cggcaatgag atcccaagca tccccgatgg agctttaaga 300  
gacctcagct ctcttcaggt tttcaagttc agctacaaca agctgagagt gatcacagga 360  
cagaccctcc aggggtctctc taacttaatg aggctgcaca ttgaccacaa caagatcgag 420  
tttatccacc ctcaagcttt caacggctta acgtctctga ggctactcca tttggaagga 480  
aatctcctcc accagctgca cccagcacc ttctccacgt tcacattttt ggattatttc 540  
agactctcca ccataaggca cctctactta gcagagaaca tggttagaac tcttctgccc 600  
agcatgcttc ggaacatgcc gcttctggag aatctttact tgcagggaaa tccgtggacc 660  
tgcgattgtg agatgagatg gtttttggaa tgggatgcaa aatccagagg aattctgaag 720  
tgtaaaaagg acaaagctta tgaaggcggc cagttgtgtg caatgtgctt cagtccaaag 780  
aagttgtaca aacatgagat acacaagctg aaggacatga cttgtctgaa gccttcaata 840  
gagtcccctc tgagacagaa caggagcagg agtattgagg aggagcaaga acaggaagag 900  
gatggtggca gccagctcat cctggagaaa ttccaactgc ccagtgagg catctctttg 960  
aatatgaccg acgagcacgg gaacatggtg aacttggctc gtgacatcaa gaaaccaatg 1020  
gatgtgtaca agattcactt gaaccaaacg gatcctccag atattgacat aaatgcaaca 1080  
gttgcccttg actttgagtg tccaatgacc cgagaaaact atgaaaagct atggaaattg 1140  
atagcatact acagtgaagt tcccgtgaag ctacacagag agctcatgct cagcaaagac 1200  
cccagagtca gctaccagta caggcaggat gctgatgagg aagctcttta ctacacaggt 1260  
gtgagagccc agattcttgc agaaccagaa tgggtcatgc agccatccat agatatccag 1320  
ctgaaccgac gtcagagtac ggccaagaag gtgctacttt cctactacac ccagtattct 1380  
caaacaatat ccaccaaaga tacaaggcag gctcggggca gaagctgggt aatgattgag 1440  
cctagtggag ctgtgcaaag agatcagact gtcctggaag ggggtccatg ccagttgagc 1500  
tgcaacgtga aagcttctga gagtccatct atcttctggg tgcttcaga tggctccatc 1560  
ctgaaagcgc ccatggatga cccagacagc aagttctcca ttctcagcag tggctggctg 1620  
aggatcaagt ccatggagcc atctgactca ggcttgatcc agtgcattgc tcaagtgagg 1680

gatgaaatgg accgcatggt atatagggtg cttgtgcagt ctccctccac tcagccagcc	1740
gagaaagaca cagtgacaat tggcaagaac ccaggggagt cggtgacatt gccttgcaat	1800
gcttttagcaa taccgaagc ccaccttagc tggattcttc caaacagaag gataattaat	1860
gatttggtta acacatcaca tgtatacatg ttgccaaatg gaactctttc catoccaaag	1920
gtccaagtca gtgatagtgg ttactacaga tgtgtggctg tcaaccagca aggggcagac	1980
cattttacgg tgggaatcac agtgaccaag aaagggctctg gcttgccatc caaaagagggc	2040
agacgcccag gtgcaaaggc tctttccaga gtcagagaag acatcgtgga ggatgaaggg	2100
ggctcgggca tgggagatga agagaacact tcaaggagac ttctgcatcc aaaggaccaa	2160
gaggtgttcc tcaaaacaaa ggatgatgcc atcaatggag acaagaaagc caagaaaggg	2220
agaagaaagc tgaaactctg gaagcattcg gaaaaagaac cagagaccaa tggtgcagaa	2280
ggtcgcagag tgtttgaatc tagacgaagg ataaacatgg caaacaaaca gattaatccg	2340
gagcgctggg ctgatatttt agccaaagtc cgtgggaaaa atctccctaa gggcacagaa	2400
gtacccccgt tgattaaaac cacaagtcct ccctccttga gcctagaagt cacaccacct	2460
tttctgctg tttctcccc ctcagcatct cctgtgcaga cagtaaccag tgctgaagaa	2520
tcctcagcag atgtacctct acttggtgaa gaagagcacg ttttggttac catttctca	2580
gccagcatgg ggctagaaca caaccacaat ggagttattc ttgttgaacc tgaagtaaca	2640
agcacacctc tggaggaagt tgttgatgac ctttctgaga agactgagga gataacttcc	2700
actgaaggag acctgaaggg gacagcagcc cctacactta tatctgagcc ttatgaacca	2760
tctctactc tgcacacatt agacacagtc tatgaaaagc ccacccatga agagacggca	2820
acagaggggt ggtctgcagc agatggttga tcgtcaccag agcccatc cagtgaagtat	2880
gagcctccat tggatgctgt ctcttgggt gagtctgagc ccatgcaata ctttgaccca	2940
gatttgagga ctaagtcaca accagatgag gataagatga aagaagacac ctttgacac	3000
cttactccaa cccccaccat ctgggttaat gactccagta catcacagtt atttgaggat	3060
tctactatag gggaaaccagg tgtcccaggc caatcacatc tacaaggact gacagacaac	3120
atccaccttg tgaagtag tctaagcact caagacacct tactgattaa aaagggtatg	3180
aaagagatgt ctgagacact acaggagga aatatgctag agggagaccc cacacactcc	3240
agaagttctg agagtgagg ccaagagagc aaatccatca ctttgctga ctccactg	3300
ggtataatga gcagtatgtc tccagttaag aagcctgcgg aaaccacagt tggtagcctc	3360
ctagacaaaag acaccacaac agtaacaaca acaccaaggc aaaaagttgc tccgtcatcc	3420

accatgagca ctcacccttc tcgaaggaga cccaacggga gaaggagatt acgccccaac	3480
aaattccgcc accggcacaa gcaaacccca cccacaactt ttgccccatc agagactttt	3540
tctactcaac caactcaagc acctgacatt aagatttcaa gtcaagtgga gagttctctg	3600
gttcctacag cttgggtgga taacacagtt aatacccca aacagttgga aatggagaag	3660
aatgcagaac ccacatccaa gggaacacca cggagaaaac acgggaagag gccaaacaaa	3720
catcgatata ccccttctac agtgagctca agagcgtccg gatccaagcc cagcccttct	3780
ccagaaaata aacatagaaa cattgttact cccagttcag aaactatact tttgcctaga	3840
actgtttctc tgaaaactga gggcccttat gattccttag attacatgac aaccaccaga	3900
aaaatatatt catcttacct taaagtccaa gagacacttc cagtcacata taaaccaca	3960
tcagatggaa aagaaattaa ggatgatgtt gccacaaatg ttgacaaaca taaaagtgac	4020
attttagtca ctggtgaatc aattactaat gccataccaa cttctcgctc cttggtctcc	4080
actatgggag aatttaagga agaatcctct cctgtaggct ttccaggaac tccaacctgg	4140
aatccctcaa ggacggcca gcctgggagg ctacagacag acatacctgt taccacttct	4200
ggggaaaatc ttacagacc tccccttctt aaagagcttg aggatgtgga tttcacttcc	4260
gagtttttgt cctctttgac agtctccaca ccatttcacc aggaagaagc tggttcttcc	4320
acaactctct caagcataaa agtggagggtg gcttcaagtc aggcagaaac caccaccctt	4380
gatcaagatc atcttgaaac cactgtgggt attctccttt ctgaaactag accacagaat	4440
cacacccta ctgctgccc gatgaaggag ccagcatcct cgtccccatc cacaattctc	4500
atgtctttgg gacaaaccac caccactaag ccagcacttc ccagtccaag aatatctcaa	4560
gcatctagag attccaagga aaatgttttc ttgaattatg tggggaatcc agaaacagaa	4620
gcaacccag tcaacaatga aggaacacag catatgtcag ggccaaatga attatcaaca	4680
ccctcttccg accgggatgc atttaacttg tctacaaagc tgggaattgga aaagcaagta	4740
tttggtagta ggagtctacc acgtggcca gatagccaac gccaggatgg aagagttcat	4800
gcttctcatc aactaaccag agtccctgcc aaacccatcc taccaacagc aacagtgagg	4860
ctacctgaaa tgtccacaca aagcgttcc agatactttg taacttccca gtcacctcgt	4920
cactggacca acaaaccgga aataactaca tatccttctg gggctttgcc agagaacaaa	4980
cagtttacia ctccaagatt atcaagtaca acaattcctc tcccattgca catgtccaaa	5040
cccagcattc ctagtaagtt tactgaccga agaactgacc aattcaatgg ttactccaaa	5100



gtgttttgaa ataacaacat ccctgaggca agaaacccag ttggaaagcc tcccagtcca 5160  
agaattcctc attattccaa tggaagactc cttttcttta ccaacaagac tctttctttt 5220  
ccacagttgg gagtcacccg gagaccccag ataccactt ctctgcccc agtaatgaga 5280  
gagagaaaaag ttattccagg ttcttacaac aggatacatt cccatagcac cttccatctg 5340  
gactttggcc ctccggcacc tccgttggtg cactctccg agaccacggg atcacctca 5400  
actaacttac agaatatccc tatggtctct tccaccaga gttctatctc ctttataaca 5460  
tcttctgtcc agtcctcagg aagcttcac cagagcagct caaagttctt tgcaggagga 5520  
cctcctgcat ccaaattctg gtctcttggg gaaaagcccc aaatcctcac caagtcccca 5580  
cagactgtgt ccgtcacccg tgagacagac actgtgttcc cctgtgaggc aacaggaaaa 5640  
ccaaagcctt tcgttacttg gacaaagggt tccacaggag ctcttatgac tccgaatacc 5700  
aggatacaac ggtttgaggt tctcaagaac ggtaccttag tgatacgga ggttcaagta 5760  
caagatcgag gccagtatat gtgcaccgcc agcaacctgc acggcctgga caggatggtg 5820  
gtcttgcttt cggtcaccgt gcagcaacct caaatcctag cctcccacta ccaggacgtc 5880  
actgtctacc tgggagacac cattgcaatg gagtgtctgg ccaaagggac ccagccccc 5940  
caaatttcct ggatcttccc tgacaggagg gtgtggcaaa ctgtgtcccc cgtggagagc 6000  
cgcatcacc tgcacgaaaa ccggaccctt tccatcaagg aggcgtcctt ctcagacaga 6060  
ggcgtctata agtgcgtagg cagcaatgca gccggggcgg acagcctggc catccgcctg 6120  
cacgtggcgg cactgcccc cgttatccac caggagaagc tggagaacat ctcgctgccc 6180  
ccggggctca gcattcacat tctactgact gccaaaggct cgccccctg cagcgtgcgc 6240  
tgggtgctcg gggacggtag ccagatccgc ccctcgagc tctccacgg gaacttggtt 6300  
gttttcccca acgggacgct ctacatccgc aacctcgcg ccaaggacag cgggcgctat 6360  
gagtgcgtgg ccgccaacct ggtaggctcc gcgcgcagga cgggtgcagc gaacgtgcag 6420  
cgtgcagcag ccaacgcgcg catcacgggc acctccccgc ggaggacgga cgtcaggtac 6480  
ggaggaaccc tcaagctgga ctgcagcgcc tcgggggacc cctggccgcg catcctctgg 6540  
aggetgccgt ccaagaggat gatcgacgcg ctcttcagtt ttgatagcag aatcaagggt 6600  
tttgccaatg ggaccctggt ggtgaaatca gtgacggaca aagatgccgg agattacctg 6660  
tgcgtagctc gaaataaggt tggatgatgc tacgtggtgc tcaaagtgga tgtggtgatg 6720  
aaaccggcca agattgaaca caaggaggag aacgaccaca aagtcttcta cgggggtgac 6780  
ctgaaagtgg actgtgtggc caccgggctt cccaatcccg agatctcctg gagcctccca 6840

gacgggagtc	tgggtgaactc	cttcatgcag	tcggatgaca	gcggtggacg	caccaagcgc	6900
tatgtcgtct	tcaacaatgg	gacactctac	tttaacgaag	tggggatgag	ggaggaagga	6960
gactacacct	gctttgctga	aaatcaggtc	gggaaggacg	agatgagagt	cagagtcaag	7020
gtggtgacag	cggccgccac	catccggaac	aagacttact	tggcggttca	ggtgccctat	7080
ggagacgtgg	tcactgtagc	ctgtgaggcc	aaaggagaac	ccatgcccaa	ggtgacttgg	7140
ttgtccccaa	ccaacaaggt	gatccccacc	tcctctgaga	agtatcagat	ataccaagat	7200
ggcactctcc	ttattcagaa	agcccagcgt	tctgacagcg	gcaactacac	ctgcctggtc	7260
aggaacagcg	cgggagagga	taggaagacg	gtgtggattc	acgtcaacgt	ccagccaccc	7320
aagatcaacg	gtaaccccaa	ccccatcacc	accgtgcggg	agatagcagc	cgggggcagt	7380
cggaaactga	ttgactgcaa	agctgaaggc	atccccaccc	cgaggggtgtt	atgggctttt	7440
cccgaggggtg	tggttctgcc	agctccatac	tatggaaacc	ggatcactgt	ccatggcaac	7500
ggttccctgg	acatcaggag	tttgaggaag	agcgactccg	tccagctggg	atgcatggca	7560
cgcaacgagg	gaggggaggc	gaggttgatc	gtgcagctca	ctgtcctgga	gcccattggag	7620
aaacccatct	tccacgaccc	gatcagcgag	aagatcacgg	ccatggcggg	ccacaccatc	7680
agcctcaact	gctctgccgc	ggggaccccg	acaccagcc	tgggtgtgggt	ccttcccaat	7740
ggcaccgatc	tgcagagtgg	acagcagctg	cagcgcttct	accacaaggc	tgacggcatg	7800
ctacacatta	gcggtctctc	ctcgggtggac	gctggggcct	accgctgcgt	ggcccgaat	7860
gccgctggcc	acacggagag	gctggtctcc	ctgaagggtg	gactgaagcc	agaagcaaac	7920
aagcagtatc	ataacctggg	cagcatcatc	aatggtgaga	ccctgaagct	ccctgcacc	7980
cctcccgggg	ctgggcaggg	acgtttctcc	tggacgctcc	ccaatggcat	gcattctggag	8040
ggccccaaa	ccctgggacg	cgtttctctt	ctggacaatg	gcaccctcac	ggttcgtgag	8100
gcctcgggtg	ttgacagggg	tacctatgta	tgcaggatgg	agacggagta	cggcccttcg	8160
gtcaccagca	tccccgtgat	tgtgatcgcc	tatcctcccc	ggatcaccag	cgagcccacc	8220
ccggtcatct	acacccggcc	cgggaacacc	gtgaaactga	actgcatggc	tatggggatt	8280
cccaaagctg	acatcacgtg	ggagttaccg	gataagtcgc	atctgaaggc	aggggttcag	8340
gctcgtctgt	atggaaacag	atttcttcac	ccccagggat	cactgaccat	ccagcatgcc	8400
acacagagag	atgccggctt	ctacaagtgc	atggcaaaaa	acattctcgg	cagtgactcc	8460
aaaacaactt	acatccacgt	cttctgaaat	gtggattcca	gaatgattgc	ttaggaactg	8520



cagaaagata	ctttttatgg	cctcaggagc	ttgacacgat	tgcacatgga	ccacaacaat	420
attgagttta	taaaccacaga	ggttttttat	gggctcaact	ttctccgcct	ggtgcacttg	480
gaaggaaatc	agctcactaa	gctccacca	gatacatttg	tctctttgag	ctacctccag	540
atatttaaaa	tctctttcat	taagttccta	tacttgctctg	ataacttcoct	gacctccctc	600
cctcaagaga	tggtctccta	tatgcctgac	ctagacagcc	tttacctgca	tggaacacca	660
tggaacctgtg	attgccattt	aaagtgggtg	tctgactgga	tacaggagaa	gccagatgta	720
ataaaatgca	aaaaagatag	aagtccctct	agtgtcagc	agtgtccact	ttgcatgaac	780
cctaggactt	ctaaaggcaa	gccgttagct	atgggtctcag	ctgcagcttt	ccagtgtgcc	840
aagccaacca	ttgactcatc	cctgaaatca	aagagcctga	ctattctgga	agacagtagt	900
tctgctttca	tctctcccca	aggtttcatg	gcaccctttg	gctccctcac	tttgaatatg	960
acagatcagt	ctggaaatga	agctaacatg	gtctgcagta	ttcaaaagcc	ctcaaggaca	1020
tcacccattg	cattcactga	agaaaatgac	tacatcgtgc	taaatacttc	atthttcaaca	1080
tttttggtgt	gcaacataga	ttacggtcac	attcagccag	tgtggcaaat	tttggctttg	1140
tacagtgatt	ctcctctgat	actagaaagg	agccacttgc	ttagtgaaac	accgcagctc	1200
tattacaaat	ataaacaggt	ggctcctaag	cctgaagaca	tttttaccaa	catagaggca	1260
gatctcagag	cagatccctc	ttggttaatg	caagaccaa	tttccttgca	gctgaacaga	1320
actgccacca	cattcagtac	attacagatc	cagtactcca	gtgatgctca	aatcacttta	1380
ccaagagcag	agatgaggcc	agtgaacac	aatggacta	tgattttcaag	ggataacaat	1440
actaagctgg	aacatactgt	cttggtaggt	ggaaccgttg	gcctgaactg	cccaggccaa	1500
ggagacccca	ccccacacgt	ggattggctt	ctagctgatg	gaagtaaagt	gagagcccct	1560
tatgtcagtg	aggatggacg	gatcctaata	gacaaaagtg	gaaaattgga	actccagatg	1620
gctgatagtt	ttgacacagg	cgtatatcac	tgtataagca	gcaattatga	tgatgcagat	1680
attctcacct	ataggataac	tgtggtagaa	cctttggctg	aagcctatca	ggaaaatggg	1740
attcatcaca	cagttttcat	tggtgaaaca	cttgatcttc	catgccattc	tactgggtatc	1800
ccagatgcct	ctattagctg	ggttattcca	ggaaacaatg	tgctctatca	gtcatcaaga	1860
gacaagaaag	ttctaataca	tggaacatta	agaatattac	aggtcacccc	gaaagaccaa	1920
ggttattatc	gctgtgtggc	agccaacca	tcagggggtg	atthtttgat	tttccaagtt	1980
tcagtcaaga	tgaaaggaca	aaggcccttg	gagcatgatg	gagaaacaga	gggatctgga	2040
cttgatgagt	ccaatcctat	tgctcatctt	aaggagccac	cagggtgcaca	actccgtaca	2100

tctgctctga	tggaggctga	ggttgga	caacacctcaa	gcacaagtaa	gaggcacaac	2160
tatcggaat	taacactcca	gcgacgtga	gattcaacac	atcgacgttt	tagggagaat	2220
aggaggcatt	tccctccctc	tgctaggaga	attgaccac	aacattgggc	ggcactgttg	2280
gagaaagcta	aaaagaatgc	tatgccagac	aagcgagaaa	ataccacagt	gagcccaccc	2340
ccagtggta	cccaactccc	aaacatacct	ggtgaagaag	acgattcctc	aggcatgctc	2400
gctctacatg	aggaatttat	gtccccggcc	actaaagctt	tgaaccttcc	agcaaggaca	2460
gtgactgctg	actccagaac	aatatctgat	agtcctatga	caaacataaa	ttatggcaca	2520
gaattctctc	ctgttgtgaa	ttcacaaata	ctaccacctg	aagaaccac	agattttcaa	2580
ctgtctactg	ctattaaaac	tacagccatg	tcaaagaata	taaacccaac	catgtcaagc	2640
caaatacaag	gcacaaccaa	tcaacattca	tccactgtct	ttccactgct	acttggagca	2700
actgaatttc	aggactctga	ccagatggga	agaggaagag	agcatttcca	aagtagaccc	2760
ccaataacag	taaggactat	gatcaaagat	gtcaatgtca	aatgcttag	tagcaccacc	2820
aacaaactat	tattagagtc	agtaaatacc	acaaatagtc	atcagacatc	tgtaagagaa	2880
gtgagtgaac	ccaggcacia	tcacttctat	tctcacacta	ctcaaatact	tagcacctcc	2940
acgttccctt	cagatccaca	cacagctgct	cattctcagt	ttccgatccc	tagaaatagt	3000
acagttaaca	tcccgtgtt	cagacgttt	gggaggcaga	ggaaaattgg	cggaaggggg	3060
cggattatca	gcccatatag	aactccagtt	ctgcgacggc	atagatacag	cattttcagg	3120
tcaacaacca	gaggttcttc	tgaaaaaagc	actactgcat	tctcagccac	agtgtcaat	3180
gtgacatgtc	tgtctgtct	tcccaggag	aggctcacca	ctgccacagc	agcattgtct	3240
tttccaagtg	ctgctcccat	caccttcccc	aaagctgaca	ttgctagagt	cccatcagaa	3300
gagtctacaa	ctctagtcca	gaatccacta	ttactacttg	agaacaaacc	cagtgtagag	3360
aaaacaacac	ccacaataaa	atatttcagg	actgaaattt	cccaagtgac	tccaactggt	3420
gcagtcatga	catatgctcc	aacatccata	cccatggaaa	aaactcacia	agtaaagcc	3480
agttaccac	gtgtgtctag	caccaatgaa	gctaaaagag	attcagtgat	tacatgtca	3540
ctttcagggtg	ctatcaccaa	gccaccaatg	actattatag	ccattacaag	gttttcaaga	3600
aggaaaattc	cctggcaaca	gaactttgta	aataaccata	acccaaaagg	cagattaagg	3660
aatcaacata	aagttagttt	acaaaaaagc	acagctgtga	tgcttcctaa	aacatctcct	3720
gctttaccac	agagacaaag	ttcccccttc	catttcacca	cactttcaac	aagtgtgatg	3780

caaattccat ctaatacctt gactaccgct caccacacta cgacccaaaac acacaatcct	3840
ggaagtcttc caacaaagaa ggagcttccc ttcccacccc ttaaccctat gcttcctagt	3900
attataagca aagactcaag tacaaaaagc atcatatcaa cgcaaacagc aataccagca	3960
acaactccta ccttcctctgc atctgtcatc acttatgaaa cccaaacaga gagatctaga	4020
gcacaaacaa tacaaagaga acaggagcct caaaagaaga acaggactga cccaaacatc	4080
tctccagacc agagttcttg cttcactaca cccactgcta tgacacctcc tgctctggca	4140
ttcactcatt ccccaccaga aaacacaact gggatttcaa gcacaatcag ttttcattca	4200
agaactctta atctgacaga tgtgattgaa gaactagccc aagcaagtac tcagactttg	4260
aagagcacia ttgcttctga aacaactttg tccagcaaat cacaccagag taccacaact	4320
aggaaagcat cattagacac tcccatacca ccattcttga gcagcagtgc tactctaattg	4380
ccagttccca tctcccctcc ctttactcag agagcagtta ctgacacacg tggcgactcc	4440
catttcgggc ttatgacaaa tacagtgggc aagctgcacg aatcctcaag gcacaatctc	4500
caaatgccaa gttcacaatt ggaaccactc acttcacta cctctaattc gttacattct	4560
actcccatgc cagcactaac aacagttaaa tcacagaatt ccaaattaac tccatctccc	4620
tgggcagaat accaattttg gcacaaacca tactcagaca ttgctgaaaa aggcaaaaag	4680
ccagaagtaa gcatgttggc tactacaggc ctgtccgagg ccaccactct tgtttcagat	4740
tgggatggac agaagaacac aaagaagagt gactttgata agaaaccagt tcaagaagca	4800
acaacttcca aactccttcc ctttgactct ttgtctaggt atatatattga aaagcccagg	4860
atagttggag gaaaagctgc aagttttact attccagcta actcagatgc ctttcttccc	4920
tgtgaagctg ttggaaatcc cctgcccacc attcattgga ccagagtttc aggacttgat	4980
ttatctagag gaaaccagaa tagcaggggc caggttctcc ccaatggtac cctgtccatc	5040
cagaggggtg aaattcagga ccgcgacag tacttggtgt ccgcatccaa tctgtttggc	5100
acagaccacc ttcatgtcac cttgtctgtg gtttcctatc ctcccaggat cctggagaga	5160
cgtaccaaag agatcacagt tcattccgga agcactgtgg aactgaagtg cagagcagaa	5220
ggtaggccaa gccctacagt tacctggatt cttgcaaacc aaacagttgt ctcagaatca	5280
tcccagggaa gtaggcaggc tgtggtgacg gttgacggaa cattgggtcct ccacaatctc	5340
agtatttatg accgtggctt ttacaaatgt gtggccagca acccaggtgg ccaggattca	5400
ctgctggtta aaatacaagt cattgcagca ccacctgtta ttctagagca aaggaggcaa	5460
gtcattgtag gcacttgggg tgaaagtta aaactgccct gtactgcaaa aggaactcct	5520

cagcccagcg tttactgggt cctctctgat ggcactgaag tgaaaccatt acagtttacc 5580  
aattccaagt tgttcttatt ttcaaattggg actttgtata taagaaacct agcctcttca 5640  
gacaggggca cttatgaatg cattgctacc agttccactg gttcggagcg aagagtagta 5700  
atgcttacia tggaagagcg agtgaccagc cccaggatag aagctgcac ccagaaaagg 5760  
actgaagtga attttgggga caaattacta ctgaactgct cagccactgg ggagcccaaa 5820  
ccccaaataa tgtggagggt accatccaag gctgtgggtc accagtggag ctggatccac 5880  
gtctacccta atggatccct gtttattgga tcagtaacag aaaaagacag tgggtgtctac 5940  
ttgtgtgtgg caagaaacaa aatgggggat gatctgatac tgatgcatgt tagcctaaga 6000  
ctgaaacctg ccaaaattga ccacaagcag tatttttagaa agcaagtgt ccatgggaaa 6060  
gatttccaag tagattgcaa agcttccggc tccccagtgc cagagatatac ttggagtttg 6120  
cctgatggaa ccatgatcaa caatgcaatg caagccgatg acagtggcca caggactagg 6180  
agatataccc ttttcaacaa tggaacttta tacttcaaca aagttgggggt agcggaggaa 6240  
ggagattata cttgctatgc ccagaacacc ctagggaag atgaaatgaa ggtccactta 6300  
acagttataa cagctgtccc ccggataagg cagagtaaca aaaccaacaa gagaatcaaa 6360  
gctggagaca cagctgtcct tgactgtgag gtcactgggg atcccaaacc aaaaatattt 6420  
tggttctgct cttccaatga catgatttcc ttctccattg ataggtacac atttcatgcc 6480  
aatgggtcct tgaccatcaa caaagtgaaa ctgctcgatt ctggagagta cgtatgtgta 6540  
gcccgaaatc ccagtgggga tgacaccaa atgtacaaac tggatgtggt ctctaaacct 6600  
ccattaatca atggtctgta tacaacaga actgttatta aagccacagc tgtgagacat 6660  
tccaaaaaac actttgactg cagagctgaa gggacaccat ctctgaagt catgtggatc 6720  
atgccagaca atattttcct cacagcccca tactatggaa gcagaatcac agtccataaa 6780  
aatggaacct tggaaattag gaatgtgagg ctttcagatt cagccgactt tatctgtgtg 6840  
gcccgaaatg aaggtggaga gagcgtgttg gtagtacagt tagaagtact ggaaatgctg 6900  
agaagaccga catttagaaa tccatttaat gaaaaaatag ttgccagct gggaaagtcc 6960  
acagcattga attgctctgt tgatggtaac ccaccacctg aaataatctg gattttacca 7020  
aatggcacac gattttccaa tggaccacaa agttatcagt atctgatagc aagcaatgg 7080  
tcttttatca tttctaaaac aactcgggag gatgcaggaa aatatcgctg tgcagctagg 7140  
aataaagttg gctatattga gaaattagtc atattagaaa ttggccagaa gccagttatt 7200

cttacctatg caccagggac agtaaaaggc atcagtggag aatctctatc actgcattgt 7260  
 gtgtctgatg gaatccctaa gccaaatatc aaatggacta tgccaagtgg ttatgtagta 7320  
 gacaggcctc aaattaatgg gaaatacata ttgcatgaca atggcacctt agtcattaaa 7380  
 gaagcaacag cttatgacag aggaaactat atctgtaagg ctcaaaatag tggttggtcat 7440  
 aactgatta ctgttccagt aatgattgta gcctaccctc cccgaattac aaatcgtcca 7500  
 cccaggagta ttgtcaccag gacaggggca gcctttcagc tccactgtgt ggccttggga 7560  
 gttcccaagc cagaaatcac atgggagatg cctgaccact cccttctctc aacggcaagt 7620  
 aaagagagga cacatggaag tgagcagctt cacttacaag gtaccctagt cattcagaat 7680  
 ccccaaacct ccgattctgg gatatacaaa tgcacagcaa agaaccctact tggtagtgat 7740  
 tatgcagcaa cgtatattca agtaatctga 7770

<210> 24  
 <211> 2589  
 <212> PRT  
 <213> homo sapien

<400> 24

Met Lys Val Lys Gly Arg Gly Ile Thr Cys Leu Leu Val Ser Phe Ala  
 1 5 10 15

Val Ile Cys Leu Val Ala Thr Pro Gly Gly Lys Ala Cys Pro Arg Arg  
 20 25 30

Cys Ala Cys Tyr Met Pro Thr Glu Val His Cys Thr Phe Arg Tyr Leu  
 35 40 45

Thr Ser Ile Pro Asp Ser Ile Pro Pro Asn Val Glu Arg Ile Asn Leu  
 50 55 60

Gly Tyr Asn Ser Leu Val Arg Leu Met Glu Thr Asp Phe Ser Gly Leu  
 65 70 75 80

Thr Lys Leu Glu Leu Leu Met Leu His Ser Asn Gly Ile His Thr Ile  
 85 90 95

Pro Asp Lys Thr Phe Ser Asp Leu Gln Ala Leu Gln Val Leu Lys Met  
 100 105 110

Ser Tyr Asn Lys Val Arg Lys Leu Gln Lys Asp Thr Phe Tyr Gly Leu



115	120	125
Arg Ser Leu Thr Arg Leu His Met Asp His Asn Asn Ile Glu Phe Ile		
130	135	140
Asn Pro Glu Val Phe Tyr Gly Leu Asn Phe Leu Arg Leu Val His Leu		
145	150	155 160
Glu Gly Asn Gln Leu Thr Lys Leu His Pro Asp Thr Phe Val Ser Leu		
	165	170 175
Ser Tyr Leu Gln Ile Phe Lys Ile Ser Phe Ile Lys Phe Leu Tyr Leu		
	180	185 190
Ser Asp Asn Phe Leu Thr Ser Leu Pro Gln Glu Met Val Ser Tyr Met		
	195	200 205
Pro Asp Leu Asp Ser Leu Tyr Leu His Gly Asn Pro Trp Thr Cys Asp		
	210	215 220
Cys His Leu Lys Trp Leu Ser Asp Trp Ile Gln Glu Lys Pro Asp Val		
	225	230 235 240
Ile Lys Cys Lys Lys Asp Arg Ser Pro Ser Ser Ala Gln Gln Cys Pro		
	245	250 255
Leu Cys Met Asn Pro Arg Thr Ser Lys Gly Lys Pro Leu Ala Met Val		
	260	265 270
Ser Ala Ala Ala Phe Gln Cys Ala Lys Pro Thr Ile Asp Ser Ser Leu		
	275	280 285
Lys Ser Lys Ser Leu Thr Ile Leu Glu Asp Ser Ser Ser Ala Phe Ile		
	290	295 300
Ser Pro Gln Gly Phe Met Ala Pro Phe Gly Ser Leu Thr Leu Asn Met		
	305	310 315 320
Thr Asp Gln Ser Gly Asn Glu Ala Asn Met Val Cys Ser Ile Gln Lys		
	325	330 335
Pro Ser Arg Thr Ser Pro Ile Ala Phe Thr Glu Glu Asn Asp Tyr Ile		
	340	345 350

Val Leu Asn Thr Ser Phe Ser Thr Phe Leu Val Cys Asn Ile Asp Tyr  
355 360 365

Gly His Ile Gln Pro Val Trp Gln Ile Leu Ala Leu Tyr Ser Asp Ser  
370 375 380

Pro Leu Ile Leu Glu Arg Ser His Leu Leu Ser Glu Thr Pro Gln Leu  
385 390 395 400

Tyr Tyr Lys Tyr Lys Gln Val Ala Pro Lys Pro Glu Asp Ile Phe Thr  
405 410 415

Asn Ile Glu Ala Asp Leu Arg Ala Asp Pro Ser Trp Leu Met Gln Asp  
420 425 430

Gln Ile Ser Leu Gln Leu Asn Arg Thr Ala Thr Thr Phe Ser Thr Leu  
435 440 445

Gln Ile Gln Tyr Ser Ser Asp Ala Gln Ile Thr Leu Pro Arg Ala Glu  
450 455 460

Met Arg Pro Val Lys His Lys Trp Thr Met Ile Ser Arg Asp Asn Asn  
465 470 475 480

Thr Lys Leu Glu His Thr Val Leu Val Gly Gly Thr Val Gly Leu Asn  
485 490 495

Cys Pro Gly Gln Gly Asp Pro Thr Pro His Val Asp Trp Leu Leu Ala  
500 505 510

Asp Gly Ser Lys Val Arg Ala Pro Tyr Val Ser Glu Asp Gly Arg Ile  
515 520 525

Leu Ile Asp Lys Ser Gly Lys Leu Glu Leu Gln Met Ala Asp Ser Phe  
530 535 540

Asp Thr Gly Val Tyr His Cys Ile Ser Ser Asn Tyr Asp Asp Ala Asp  
545 550 555 560

Ile Leu Thr Tyr Arg Ile Thr Val Val Glu Pro Leu Val Glu Ala Tyr  
565 570 575

Gln Glu Asn Gly Ile His His Thr Val Phe Ile Gly Glu Thr Leu Asp  
580 585 590

Leu Pro Cys His Ser Thr Gly Ile Pro Asp Ala Ser Ile Ser Trp Val  
595 600 605

Ile Pro Gly Asn Asn Val Leu Tyr Gln Ser Ser Arg Asp Lys Lys Val  
610 615 620

Leu Asn Asn Gly Thr Leu Arg Ile Leu Gln Val Thr Pro Lys Asp Gln  
625 630 635 640

Gly Tyr Tyr Arg Cys Val Ala Ala Asn Pro Ser Gly Val Asp Phe Leu  
645 650 655

Ile Phe Gln Val Ser Val Lys Met Lys Gly Gln Arg Pro Leu Glu His  
660 665 670

Asp Gly Glu Thr Glu Gly Ser Gly Leu Asp Glu Ser Asn Pro Ile Ala  
675 680 685

His Leu Lys Glu Pro Pro Gly Ala Gln Leu Arg Thr Ser Ala Leu Met  
690 695 700

Glu Ala Glu Val Gly Lys His Thr Ser Ser Thr Ser Lys Arg His Asn  
705 710 715 720

Tyr Arg Glu Leu Thr Leu Gln Arg Arg Gly Asp Ser Thr His Arg Arg  
725 730 735

Phe Arg Glu Asn Arg Arg His Phe Pro Pro Ser Ala Arg Arg Ile Asp  
740 745 750

Pro Gln His Trp Ala Ala Leu Leu Glu Lys Ala Lys Lys Asn Ala Met  
755 760 765

Pro Asp Lys Arg Glu Asn Thr Thr Val Ser Pro Pro Pro Val Val Thr  
770 775 780

Gln Leu Pro Asn Ile Pro Gly Glu Glu Asp Asp Ser Ser Gly Met Leu  
785 790 795 800

Ala Leu His Glu Glu Phe Met Val Pro Ala Thr Lys Ala Leu Asn Leu  
805 810 815

Pro Ala Arg Thr Val Thr Ala Asp Ser Arg Thr Ile Ser Asp Ser Pro  
820 825 830

Met Thr Asn Ile Asn Tyr Gly Thr Glu Phe Ser Pro Val Val Asn Ser  
835 840 845

Gln Ile Leu Pro Pro Glu Glu Pro Thr Asp Phe Lys Leu Ser Thr Ala  
850 855 860

Ile Lys Thr Thr Ala Met Ser Lys Asn Ile Asn Pro Thr Met Ser Ser  
865 870 875 880

Gln Ile Gln Gly Thr Thr Asn Gln His Ser Ser Thr Val Phe Pro Leu  
885 890 895

Leu Leu Gly Ala Thr Glu Phe Gln Asp Ser Asp Gln Met Gly Arg Gly  
900 905 910

Arg Glu His Phe Gln Ser Arg Pro Pro Ile Thr Val Arg Thr Met Ile  
915 920 925

Lys Asp Val Asn Val Lys Met Leu Ser Ser Thr Thr Asn Lys Leu Leu  
930 935 940

Leu Glu Ser Val Asn Thr Thr Asn Ser His Gln Thr Ser Val Arg Glu  
945 950 955 960

Val Ser Glu Pro Arg His Asn His Phe Tyr Ser His Thr Thr Gln Ile  
965 970 975

Leu Ser Thr Ser Thr Phe Pro Ser Asp Pro His Thr Ala Ala His Ser  
980 985 990

Gln Phe Pro Ile Pro Arg Asn Ser Thr Val Asn Ile Pro Leu Phe Arg  
995 1000 1005

Arg Phe Gly Arg Gln Arg Lys Ile Gly Gly Arg Gly Arg Ile Ile  
1010 1015 1020

Ser Pro Tyr Arg Thr Pro Val Leu Arg Arg His Arg Tyr Ser Ile

1025						1030						1035					
Phe	Arg	Ser	Thr	Thr	Arg	Gly	Ser	Ser	Glu	Lys	Ser	Thr	Thr	Ala			
1040						1045						1050					
Phe	Ser	Ala	Thr	Val	Leu	Asn	Val	Thr	Cys	Leu	Ser	Cys	Leu	Pro			
1055						1060						1065					
Arg	Glu	Arg	Leu	Thr	Thr	Ala	Thr	Ala	Ala	Leu	Ser	Phe	Pro	Ser			
1070						1075						1080					
Ala	Ala	Pro	Ile	Thr	Phe	Pro	Lys	Ala	Asp	Ile	Ala	Arg	Val	Pro			
1085						1090						1095					
Ser	Glu	Glu	Ser	Thr	Thr	Leu	Val	Gln	Asn	Pro	Leu	Leu	Leu	Leu			
1100						1105						1110					
Glu	Asn	Lys	Pro	Ser	Val	Glu	Lys	Thr	Thr	Pro	Thr	Ile	Lys	Tyr			
1115						1120						1125					
Phe	Arg	Thr	Glu	Ile	Ser	Gln	Val	Thr	Pro	Thr	Gly	Ala	Val	Met			
1130						1135						1140					
Thr	Tyr	Ala	Pro	Thr	Ser	Ile	Pro	Met	Glu	Lys	Thr	His	Lys	Val			
1145						1150						1155					
Asn	Ala	Ser	Tyr	Pro	Arg	Val	Ser	Ser	Thr	Asn	Glu	Ala	Lys	Arg			
1160						1165						1170					
Asp	Ser	Val	Ile	Thr	Ser	Ser	Leu	Ser	Gly	Ala	Ile	Thr	Lys	Pro			
1175						1180						1185					
Pro	Met	Thr	Ile	Ile	Ala	Ile	Thr	Arg	Phe	Ser	Arg	Arg	Lys	Ile			
1190						1195						1200					
Pro	Trp	Gln	Gln	Asn	Phe	Val	Asn	Asn	His	Asn	Pro	Lys	Gly	Arg			
1205						1210						1215					
Leu	Arg	Asn	Gln	His	Lys	Val	Ser	Leu	Gln	Lys	Ser	Thr	Ala	Val			
1220						1225						1230					
Met	Leu	Pro	Lys	Thr	Ser	Pro	Ala	Leu	Pro	Gln	Arg	Gln	Ser	Ser			
1235						1240						1245					

Pro Phe His Phe Thr Thr Leu Ser Thr Ser Val Met Gln Ile Pro  
1250 1255 1260

Ser Asn Thr Leu Thr Thr Ala His His Thr Thr Thr Lys Thr His  
1265 1270 1275

Asn Pro Gly Ser Leu Pro Thr Lys Lys Glu Leu Pro Phe Pro Pro  
1280 1285 1290

Leu Asn Pro Met Leu Pro Ser Ile Ile Ser Lys Asp Ser Ser Thr  
1295 1300 1305

Lys Ser Ile Ile Ser Thr Gln Thr Ala Ile Pro Ala Thr Thr Pro  
1310 1315 1320

Thr Phe Pro Ala Ser Val Ile Thr Tyr Glu Thr Gln Thr Glu Arg  
1325 1330 1335

Ser Arg Ala Gln Thr Ile Gln Arg Glu Gln Glu Pro Gln Lys Lys  
1340 1345 1350

Asn Arg Thr Asp Pro Asn Ile Ser Pro Asp Gln Ser Ser Gly Phe  
1355 1360 1365

Thr Thr Pro Thr Ala Met Thr Pro Pro Ala Leu Ala Phe Thr His  
1370 1375 1380

Ser Pro Pro Glu Asn Thr Thr Gly Ile Ser Ser Thr Ile Ser Phe  
1385 1390 1395

His Ser Arg Thr Leu Asn Leu Thr Asp Val Ile Glu Glu Leu Ala  
1400 1405 1410

Gln Ala Ser Thr Gln Thr Leu Lys Ser Thr Ile Ala Ser Glu Thr  
1415 1420 1425

Thr Leu Ser Ser Lys Ser His Gln Ser Thr Thr Thr Arg Lys Ala  
1430 1435 1440

Ser Leu Asp Thr Pro Ile Pro Pro Phe Leu Ser Ser Ser Ala Thr  
1445 1450 1455

Leu Met Pro Val Pro Ile Ser Pro Pro Phe Thr Gln Arg Ala Val  
1460 1465 1470

Thr Asp Thr Arg Gly Asp Ser His Phe Arg Leu Met Thr Asn Thr  
1475 1480 1485

Val Val Lys Leu His Glu Ser Ser Arg His Asn Leu Gln Met Pro  
1490 1495 1500

Ser Ser Gln Leu Glu Pro Leu Thr Ser Ser Thr Ser Asn Leu Leu  
1505 1510 1515

His Ser Thr Pro Met Pro Ala Leu Thr Thr Val Lys Ser Gln Asn  
1520 1525 1530

Ser Lys Leu Thr Pro Ser Pro Trp Ala Glu Tyr Gln Phe Trp His  
1535 1540 1545

Lys Pro Tyr Ser Asp Ile Ala Glu Lys Gly Lys Lys Pro Glu Val  
1550 1555 1560

Ser Met Leu Ala Thr Thr Gly Leu Ser Glu Ala Thr Thr Leu Val  
1565 1570 1575

Ser Asp Trp Asp Gly Gln Lys Asn Thr Lys Lys Ser Asp Phe Asp  
1580 1585 1590

Lys Lys Pro Val Gln Glu Ala Thr Thr Ser Lys Leu Leu Pro Phe  
1595 1600 1605

Asp Ser Leu Ser Arg Tyr Ile Phe Glu Lys Pro Arg Ile Val Gly  
1610 1615 1620

Gly Lys Ala Ala Ser Phe Thr Ile Pro Ala Asn Ser Asp Ala Phe  
1625 1630 1635

Leu Pro Cys Glu Ala Val Gly Asn Pro Leu Pro Thr Ile His Trp  
1640 1645 1650

Thr Arg Val Ser Gly Leu Asp Leu Ser Arg Gly Asn Gln Asn Ser  
1655 1660 1665

Arg Val Gln Val Leu Pro Asn Gly Thr Leu Ser Ile Gln Arg Val  
1670 1675 1680

Glu Ile Gln Asp Arg Gly Gln Tyr Leu Cys Ser Ala Ser Asn Leu  
1685 1690 1695

Phe Gly Thr Asp His Leu His Val Thr Leu Ser Val Val Ser Tyr  
1700 1705 1710

Pro Pro Arg Ile Leu Glu Arg Arg Thr Lys Glu Ile Thr Val His  
1715 1720 1725

Ser Gly Ser Thr Val Glu Leu Lys Cys Arg Ala Glu Gly Arg Pro  
1730 1735 1740

Ser Pro Thr Val Thr Trp Ile Leu Ala Asn Gln Thr Val Val Ser  
1745 1750 1755

Glu Ser Ser Gln Gly Ser Arg Gln Ala Val Val Thr Val Asp Gly  
1760 1765 1770

Thr Leu Val Leu His Asn Leu Ser Ile Tyr Asp Arg Gly Phe Tyr  
1775 1780 1785

Lys Cys Val Ala Ser Asn Pro Gly Gly Gln Asp Ser Leu Leu Val  
1790 1795 1800

Lys Ile Gln Val Ile Ala Ala Pro Pro Val Ile Leu Glu Gln Arg  
1805 1810 1815

Arg Gln Val Ile Val Gly Thr Trp Gly Glu Ser Leu Lys Leu Pro  
1820 1825 1830

Cys Thr Ala Lys Gly Thr Pro Gln Pro Ser Val Tyr Trp Val Leu  
1835 1840 1845

Ser Asp Gly Thr Glu Val Lys Pro Leu Gln Phe Thr Asn Ser Lys  
1850 1855 1860

Leu Phe Leu Phe Ser Asn Gly Thr Leu Tyr Ile Arg Asn Leu Ala  
1865 1870 1875

Ser Ser Asp Arg Gly Thr Tyr Glu Cys Ile Ala Thr Ser Ser Thr



Gly Ser Glu Arg Arg Val Val Met Leu Thr Met Glu Glu Arg Val 1895 1900 1905
Thr Ser Pro Arg Ile Glu Ala Ala Ser Gln Lys Arg Thr Glu Val 1910 1915 1920
Asn Phe Gly Asp Lys Leu Leu Leu Asn Cys Ser Ala Thr Gly Glu 1925 1930 1935
Pro Lys Pro Gln Ile Met Trp Arg Leu Pro Ser Lys Ala Val Val 1940 1945 1950
Asp Gln Trp Ser Trp Ile His Val Tyr Pro Asn Gly Ser Leu Phe 1955 1960 1965
Ile Gly Ser Val Thr Glu Lys Asp Ser Gly Val Tyr Leu Cys Val 1970 1975 1980
Ala Arg Asn Lys Met Gly Asp Asp Leu Ile Leu Met His Val Ser 1985 1990 1995
Leu Arg Leu Lys Pro Ala Lys Ile Asp His Lys Gln Tyr Phe Arg 2000 2005 2010
Lys Gln Val Leu His Gly Lys Asp Phe Gln Val Asp Cys Lys Ala 2015 2020 2025
Ser Gly Ser Pro Val Pro Glu Ile Ser Trp Ser Leu Pro Asp Gly 2030 2035 2040
Thr Met Ile Asn Asn Ala Met Gln Ala Asp Asp Ser Gly His Arg 2045 2050 2055
Thr Arg Arg Tyr Thr Leu Phe Asn Asn Gly Thr Leu Tyr Phe Asn 2060 2065 2070
Lys Val Gly Val Ala Glu Glu Gly Asp Tyr Thr Cys Tyr Ala Gln 2075 2080 2085
Asn Thr Leu Gly Lys Asp Glu Met Lys Val His Leu Thr Val Ile 2090 2095 2100

Thr	Ala	Ala	Pro	Arg	Ile	Arg	Gln	Ser	Asn	Lys	Thr	Asn	Lys	Arg
2105						2110					2115			
Ile	Lys	Ala	Gly	Asp	Thr	Ala	Val	Leu	Asp	Cys	Glu	Val	Thr	Gly
2120						2125					2130			
Asp	Pro	Lys	Pro	Lys	Ile	Phe	Trp	Leu	Leu	Pro	Ser	Asn	Asp	Met
2135						2140					2145			
Ile	Ser	Phe	Ser	Ile	Asp	Arg	Tyr	Thr	Phe	His	Ala	Asn	Gly	Ser
2150						2155					2160			
Leu	Thr	Ile	Asn	Lys	Val	Lys	Leu	Leu	Asp	Ser	Gly	Glu	Tyr	Val
2165						2170					2175			
Cys	Val	Ala	Arg	Asn	Pro	Ser	Gly	Asp	Asp	Thr	Lys	Met	Tyr	Lys
2180						2185					2190			
Leu	Asp	Val	Val	Ser	Lys	Pro	Pro	Leu	Ile	Asn	Gly	Leu	Tyr	Thr
2195						2200					2205			
Asn	Arg	Thr	Val	Ile	Lys	Ala	Thr	Ala	Val	Arg	His	Ser	Lys	Lys
2210						2215					2220			
His	Phe	Asp	Cys	Arg	Ala	Glu	Gly	Thr	Pro	Ser	Pro	Glu	Val	Met
2225						2230					2235			
Trp	Ile	Met	Pro	Asp	Asn	Ile	Phe	Leu	Thr	Ala	Pro	Tyr	Tyr	Gly
2240						2245					2250			
Ser	Arg	Ile	Thr	Val	His	Lys	Asn	Gly	Thr	Leu	Glu	Ile	Arg	Asn
2255						2260					2265			
Val	Arg	Leu	Ser	Asp	Ser	Ala	Asp	Phe	Ile	Cys	Val	Ala	Arg	Asn
2270						2275					2280			
Glu	Gly	Gly	Glu	Ser	Val	Leu	Val	Val	Gln	Leu	Glu	Val	Leu	Glu
2285						2290					2295			
Met	Leu	Arg	Arg	Pro	Thr	Phe	Arg	Asn	Pro	Phe	Asn	Glu	Lys	Ile
2300						2305					2310			

Val Ala Gln Leu Gly Lys Ser Thr Ala Leu Asn Cys Ser Val Asp  
2315 2320 2325

Gly Asn Pro Pro Pro Glu Ile Ile Trp Ile Leu Pro Val Gly Thr  
2330 2335 2340

Arg Phe Ser Asn Gly Pro Gln Ser Tyr Gln Tyr Leu Ile Ala Ser  
2345 2350 2355

Asn Gly Ser Phe Ile Ile Ser Lys Thr Thr Arg Glu Asp Ala Gly  
2360 2365 2370

Lys Tyr Arg Cys Ala Ala Arg Asn Lys Val Gly Tyr Ile Glu Lys  
2375 2380 2385

Leu Val Ile Leu Glu Ile Gly Gln Lys Pro Val Ile Leu Thr Tyr  
2390 2395 2400

Ala Pro Gly Thr Val Lys Gly Ile Ser Gly Glu Ser Leu Ser Leu  
2405 2410 2415

His Cys Val Ser Asp Gly Ile Pro Lys Pro Asn Ile Lys Trp Thr  
2420 2425 2430

Met Pro Ser Gly Tyr Val Val Asp Arg Pro Gln Ile Asn Gly Lys  
2435 2440 2445

Tyr Ile Leu His Asp Asn Gly Thr Leu Val Ile Lys Glu Ala Thr  
2450 2455 2460

Ala Tyr Asp Arg Gly Asn Tyr Ile Cys Lys Ala Gln Asn Ser Val  
2465 2470 2475

Gly His Thr Leu Ile Thr Val Pro Val Met Ile Val Ala Tyr Pro  
2480 2485 2490

Pro Arg Ile Thr Asn Arg Pro Pro Arg Ser Ile Val Thr Arg Thr  
2495 2500 2505

Gly Ala Ala Phe Gln Leu His Cys Val Ala Leu Gly Val Pro Lys  
2510 2515 2520

Pro Glu Ile Thr Trp Glu Met Pro Asp His Ser Leu Leu Ser Thr  
 2525 2530 2535

Ala Ser Lys Glu Arg Thr His Gly Ser Glu Gln Leu His Leu Gln  
 2540 2545 2550

Gly Thr Leu Val Ile Gln Asn Pro Gln Thr Ser Asp Ser Gly Ile  
 2555 2560 2565

Tyr Lys Cys Thr Ala Lys Asn Pro Leu Gly Ser Asp Tyr Ala Ala  
 2570 2575 2580

Thr Tyr Ile Gln Val Ile  
 2585

<210> 25  
 <211> 663  
 <212> PRT  
 <213> Rattus Species

<220>  
 <221> misc\_feature  
 <222> (322)..(322)  
 <223> "x" can be any amino acid

<220>  
 <221> misc\_feature  
 <222> (323)..(323)  
 <223> "x" can be any amino acid

<400> 25

Met Gln Val Arg Gly Arg Glu Val Ser Gly Leu Leu Ile Ser Leu Thr  
 1 5 10 15

Ala Val Cys Leu Val Val Thr Pro Gly Ser Arg Ala Cys Pro Arg Arg  
 20 25 30

Cys Ala Cys Tyr Val Pro Thr Glu Val His Cys Thr Phe Arg Tyr Leu  
 35 40 45

Thr Ser Ile Pro Asp Gly Ile Pro Ala Asn Val Glu Arg Ile Asn Leu  
 50 55 60

Gly Tyr Asn Ser Leu Thr Arg Leu Thr Glu Asn Asp Phe Asp Gly Leu  
 65 70 75 80

Ser Lys Leu Glu Leu Leu Met Leu His Ser Asn Gly Ile His Arg Val  
85 90 95

Ser Asp Lys Thr Phe Ser Gly Leu Gln Ser Leu Gln Val Leu Lys Met  
100 105 110

Ser Tyr Asn Lys Val Gln Ile Ile Arg Lys Asp Thr Phe Tyr Gly Leu  
115 120 125

Gly Ser Leu Val Arg Leu His Leu Asp His Asn Asn Ile Glu Phe Ile  
130 135 140

Asn Pro Glu Ala Phe Tyr Gly Leu Thr Ser Leu Arg Leu Val His Leu  
145 150 155 160

Glu Gly Asn Arg Leu Thr Lys Leu His Pro Asp Thr Phe Val Ser Leu  
165 170 175

Ser Tyr Leu Gln Ile Phe Lys Thr Ser Phe Ile Lys Tyr Leu Phe Leu  
180 185 190

Ser Asp Asn Phe Leu Thr Ser Leu Pro Lys Glu Met Val Ser Tyr Met  
195 200 205

Pro Asn Leu Glu Ser Leu Tyr Leu His Gly Asn Pro Trp Thr Cys Asp  
210 215 220

Cys His Leu Lys Trp Leu Ser Glu Trp Met Gln Gly Asn Pro Asp Ile  
225 230 235 240

Ile Lys Cys Lys Lys Asp Arg Ser Ser Ser Ser Pro Gln Gln Cys Pro  
245 250 255

Leu Cys Met Asn Pro Arg Ile Ser Lys Gly Arg Pro Phe Ala Met Val  
260 265 270

Pro Ser Gly Ala Phe Leu Cys Thr Lys Pro Thr Ile Asp Pro Ser Leu  
275 280 285

Lys Ser Lys Ser Leu Val Thr Gln Glu Asp Asn Gly Ser Ala Ser Thr  
290 295 300

Ser Pro Gln Asp Phe Ile Glu Pro Phe Gly Ser Leu Ser Leu Asn Met  
 305 310 315 320

Thr Xaa Xaa Ser Gly Asn Lys Ala Asp Met Val Cys Ser Ile Gln Lys  
 325 330 335

Pro Ser Arg Thr Ser Pro Thr Ala Phe Thr Glu Glu Asn Asp Tyr Ile  
 340 345 350

Met Leu Asn Ala Ser Phe Ser Thr Asn Leu Val Cys Ser Val Asp Tyr  
 355 360 365

Asn His Ile Gln Pro Val Trp Gln Leu Leu Ala Leu Tyr Ser Asp Ser  
 370 375 380

Pro Leu Ile Leu Glu Arg Lys Pro Gln Leu Thr Glu Thr Pro Ser Leu  
 385 390 395 400

Ser Ser Arg Tyr Lys Gln Val Ala Leu Arg Pro Glu Asp Ile Phe Thr  
 405 410 415

Ser Ile Glu Ala Asp Val Arg Ala Asp Pro Phe Trp Phe Gln Gln Glu  
 420 425 430

Lys Ile Val Leu Gln Leu Asn Arg Thr Ala Thr Thr Leu Ser Thr Leu  
 435 440 445

Gln Ile Gln Phe Ser Thr Asp Ala Gln Ile Ala Leu Pro Arg Ala Glu  
 450 455 460

Met Arg Ala Glu Arg Leu Lys Trp Thr Met Ile Leu Met Met Asn Asn  
 465 470 475 480

Pro Lys Leu Glu Arg Thr Val Leu Val Gly Gly Thr Ile Ala Leu Ser  
 485 490 495

Cys Pro Gly Lys Gly Asp Pro Ser Pro His Leu Glu Trp Leu Leu Ala  
 500 505 510

Asp Gly Ser Lys Val Arg Ala Pro Tyr Val Ser Glu Asp Gly Arg Ile  
 515 520 525

Leu Ile Asp Lys Asn Gly Lys Leu Glu Leu Gln Met Ala Asp Ser Phe  
 530 535 540

Asp Ala Gly Leu Tyr His Cys Ile Ser Thr Asn Asp Ala Asp Ala Asp  
 545 550 555 560

Val Leu Thr Tyr Arg Ile Thr Val Val Glu Pro Tyr Gly Glu Ser Thr  
 565 570 575

His Asp Ser Gly Val Gln His Thr Val Val Thr Gly Glu Thr Leu Asp  
 580 585 590

Leu Pro Cys Leu Ser Thr Gly Val Pro Asp Ala Ser Ile Ser Trp Ile  
 595 600 605

Leu Pro Gly Asn Thr Val Phe Ser Gln Pro Ser Arg Asp Arg Gln Ile  
 610 615 620

Leu Asn Asn Gly Thr Leu Arg Ile Leu Gln Val Thr Pro Lys Asp Gln  
 625 630 635 640

Gly His Tyr Gln Cys Val Ala Ala Asn Pro Ser Gly Ala Asp Phe Ser  
 645 650 655

Ser Phe Lys Val Ser Val Gln  
 660

<210> 26  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> primer used for exogenic OCP detection

<400> 26  
 gcactgaact gctctgtggat

21

<210> 27  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> primer used for exogenic OCP detection

<400> 27  
ccacagaagt aaggttcctt cac

23

<210> 28  
<211> 6  
<212> PRT  
<213> homo sapiens

<400> 28

Lys Cys Lys Lys Asp Arg  
1 5

<210> 28

ccacagaagt aaggttcctt cac